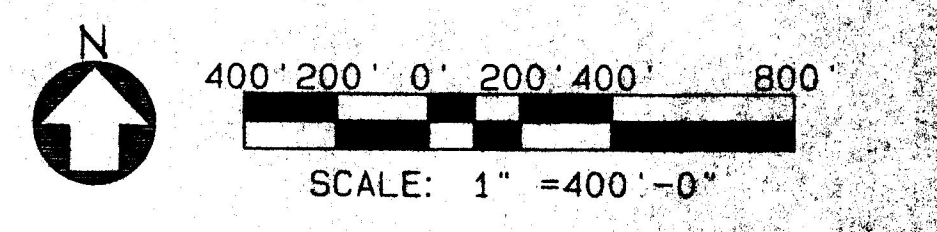
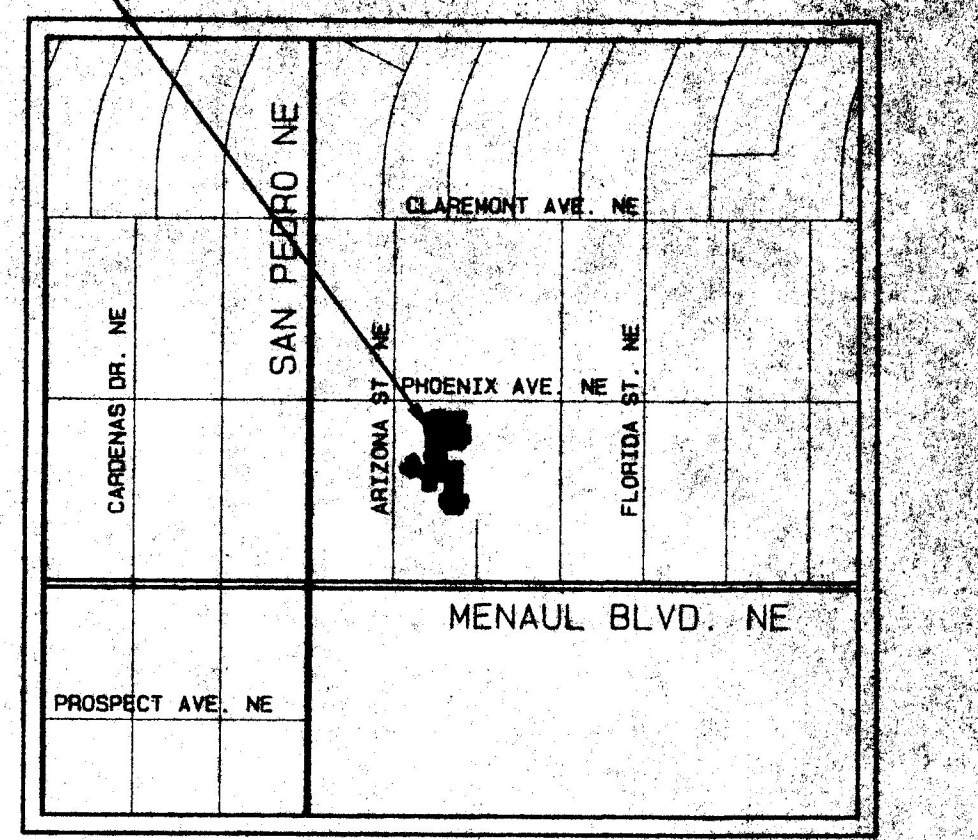


FILE NO. PLOT SCALE DRAWN BY DATE PLOT DATE XREF FILES PLANNING

KEYED NOTES

1. EXISTING ASPHALT AND PARKING STRIPING TO REMAIN.
2. EXISTING CONCRETE SIDEWALK TO REMAIN.
3. EXISTING REFUSE CONTAINER TO REMAIN.
4. EXISTING CURB CUT TO REMAIN.
5. EXISTING CURB TO REMAIN.
6. EXISTING +/- 2'-0" CONCRETE SITE WALL WITH STUCCO FINISH TO REMAIN.
7. EXISTING CONCRETE BUMPERS TO REMAIN, TYPICAL.
8. EXISTING 6'-0" CMU WALL TO REMAIN.
9. EXISTING SIGN TO REMAIN. SEE DETAIL 3/AO.1. SIM. TO REMAIN.
10. EXISTING FENCE AND TRANSFORMER TO REMAIN.
11. EXISTING 7'-0" CHAIN LINK FENCE AND ASPHALT AT CHURCH VAN STORAGE AREA TO REMAIN.
12. EXISTING PARKING LOT POLE LIGHT, +/-15'-0" IN HEIGHT WITH 2-250W METAL HALIDE LAMPS COBRA-HEAD TYPE LUMINARIES.
13. EXISTING DECORATIVE 6'-0" POLE MOUNTED INCANDESCENT SITE LIGHT.
14. EXISTING CURB RAMP TO REMAIN.
15. EXISTING POWER POLE TO REMAIN.
16. EXISTING SIDEWALK AND CURB TO REMAIN. 4'-0" WIDE TYPICAL.
17. EXISTING STREET LIGHTING TO REMAIN.
18. EXISTING CONCRETE STAIR TO REMAIN.
19. EXISTING CROSSWALK STRIPING TO REMAIN.
20. EXISTING FIRE HYDRANT TO REMAIN.
21. 4" CONCRETE SIDEWALK.
22. NEW CONCRETE CURB AND SIDEWALK IN THIS AREA TO MATCH EXISTING.
23. NEW CURB CUT PER CITY SPECIFICATIONS.
24. NEW CURB RAMP PER CITY SPECIFICATIONS.
25. SHADE STRUCTURE. SEE ELEVATIONS ON DRB SUBMITTAL SHEET #5, DETAILS 7 AND 8.

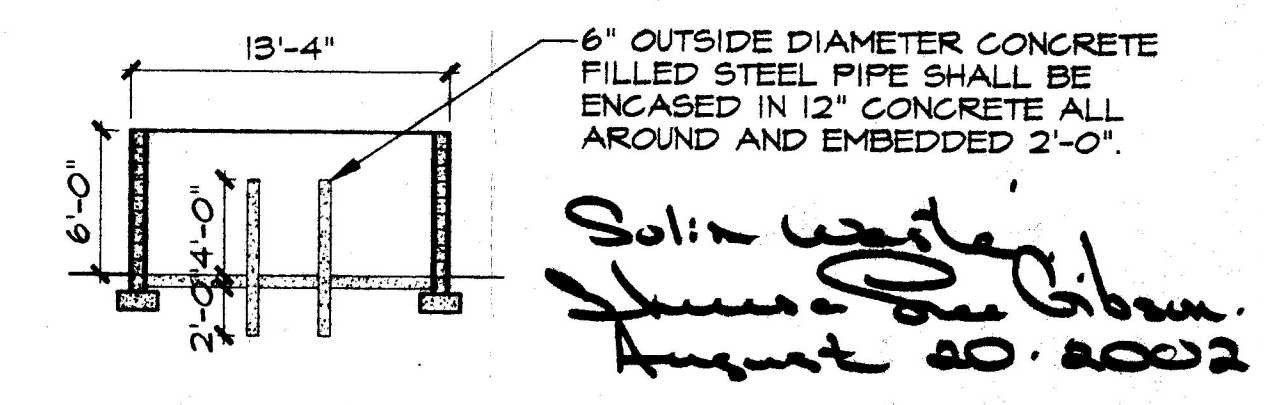
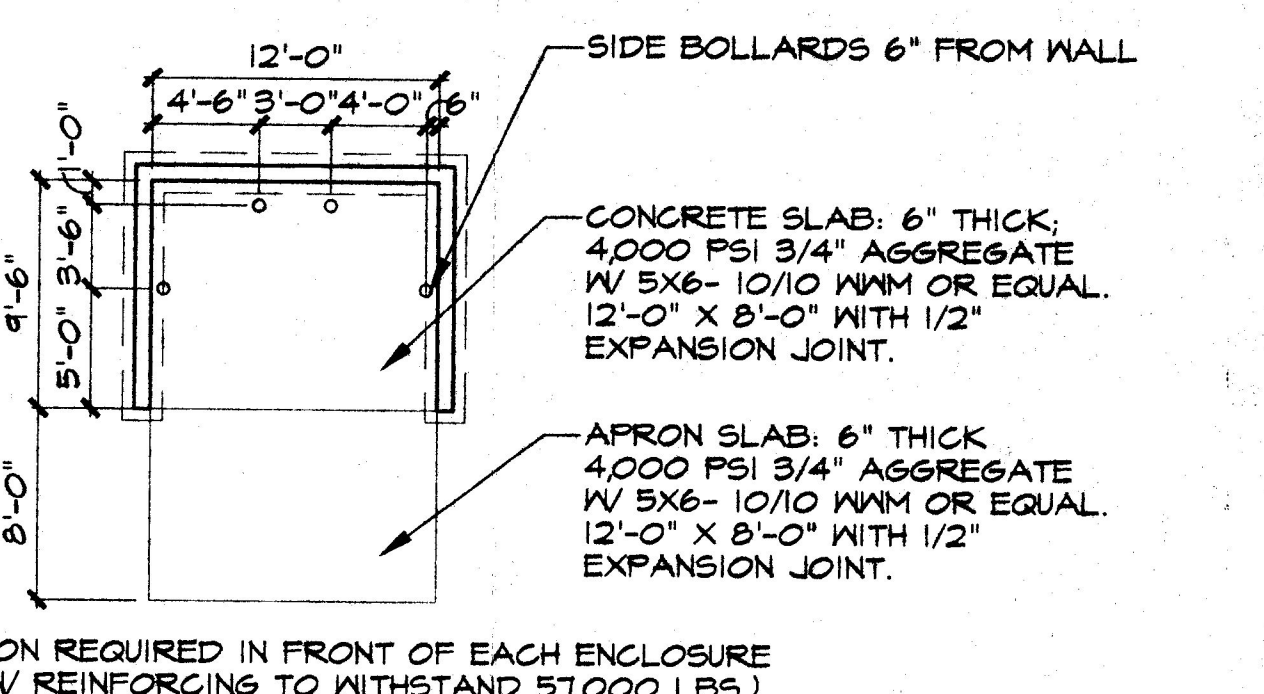
ST. JOHN'S UNITED METHODIST CHURCH
2626 ARIZONA ST. NE



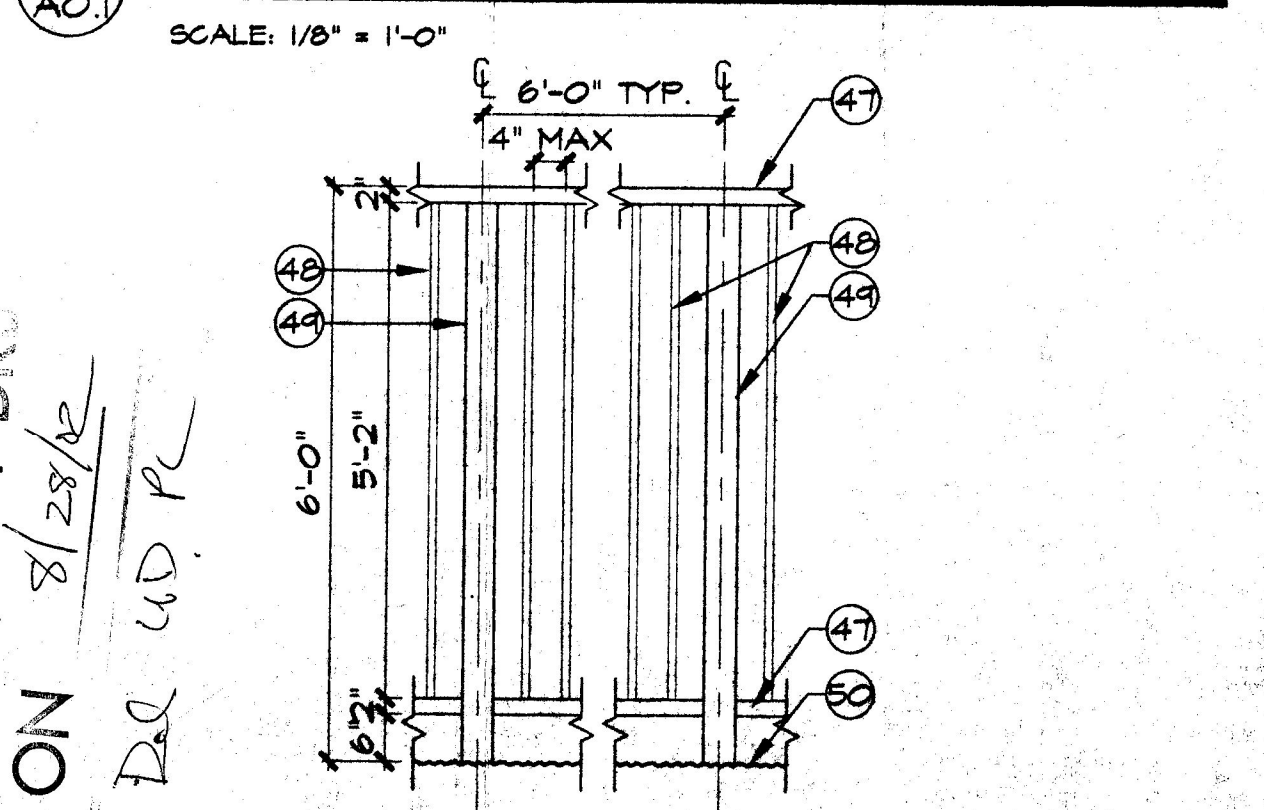
GENERAL NOTES

- A. DELEGATION OF APPROVAL FOR DRB EXPIRES FIVE YEARS FROM THE DATE OF THIS APPROVAL.
- B. NUMBER OF PARKING SPACES:
 - (1) PARKING SPACE PER FOUR CHURCH SEATS. PROVIDED 222 SEAT.
 - 30" OF PEW = 1 SEAT. PER SEC 14-16-3-1(A)3 CITY ZONING CODE. 980' EXISTING LINEAR FEET OF PEW.
- C. BICYCLE RACK SPACES:
 - (PER SEC 14-16-3-1 B3 CITY ZONING CODE) REQUIRED 5 PROVIDED 6
- D. RADI ARE 3'-0" TYPICAL UNLESS NOTED OTHERWISE. DIMENSIONS ARE TO FRONT OF CURB UNLESS NOTED OTHERWISE.
- E. FOR EXISTING TO REMAIN AND NEW LANDSCAPING. SEE LANDSCAPE DRAWINGS.
- F. ALL NEW EXTERIOR LIGHTING WILL CONFORM TO THE "NIGHT SKIES PROTECTION ACT".

26. NEW CONCRETE BUMPER.
27. 42" HIGH WROUGHT IRON PLAY YARD FENCE. SEE DETAIL 2/AO.1 SIM.
28. 6'-0" HIGH PAINTED WROUGHT IRON PLAY YARD FENCE. SEE DETAIL 2/AO.1.
29. CONCRETE RAMP AND HANDRAILS PER ANSI.
30. CONCRETE AMPHITHEATER SEATING.
31. FUTURE SIDEWALK.
32. RELOCATED SIGN. SEE DETAIL 3/AO.1.
33. RELOCATED BIKE RACK.
34. NOT USED.
35. SAND PLAY YARD AREA.
36. CONCRETE STAIR AND HANDRAILS PER ANSI.
37. NEW PARKING STRIPING AT EXISTING ASPHALT.
38. RAISED PLANTER.
39. EXISTING RIGHT OF WAY.
40. EXISTING STRUCTURE TO BE REMOVED.
41. EXISTING TREE TO BE REMOVED DUE TO POTENTIAL ROOT DAMAGE FROM NEW CONSTRUCTION. SEE EXISTING SITE SURVEY FOR TYPE AND SIZE.
42. EXISTING TREE TO BE REMOVED DUE TO POOR HEALTH OR DETERIORATING HEALTH CONDITION. SEE EXISTING SITE SURVEY FOR TYPE AND SIZE.
43. EXISTING PROPERTY LINE.
44. NEW GROUND MOUNTED FLOOD LIGHT WITH 1-TON METAL HALIDE LAMP. (TYPICAL OF 3)
45. NEW WALL BRACKET HID FIXTURE SHARP CUT-OFF WITH 1-50W METAL HALIDE LAMP. (TYPICAL) MOUNTED UP TO 10'-0" ABOVE FINISH GRADE.
46. NEW RECESSED DOWN LIGHT IN SOFFIT WITH 1-TON METAL HALIDE LAMP. (TYPICAL)
47. 2" X 4" WROUGHT IRON FENCE FRAME. PAINTED.
48. 1" X 1" SQUARE WROUGHT IRON PICKETS. PAINTED.
49. 4" X 4" SQUARE WROUGHT IRON POST @ 6'-0" O.C. MAX. SET IN CONCRETE. PAINTED.
50. LINE OF GRADE.
51. CUT ASPHALT AND REMOVE PAVING FOR LANDSCAPING.
52. LANDSCAPING.
53. RELOCATED CONCRETE PARKING BUMPER.



REFUSE CONTAINER ENCLOSURE



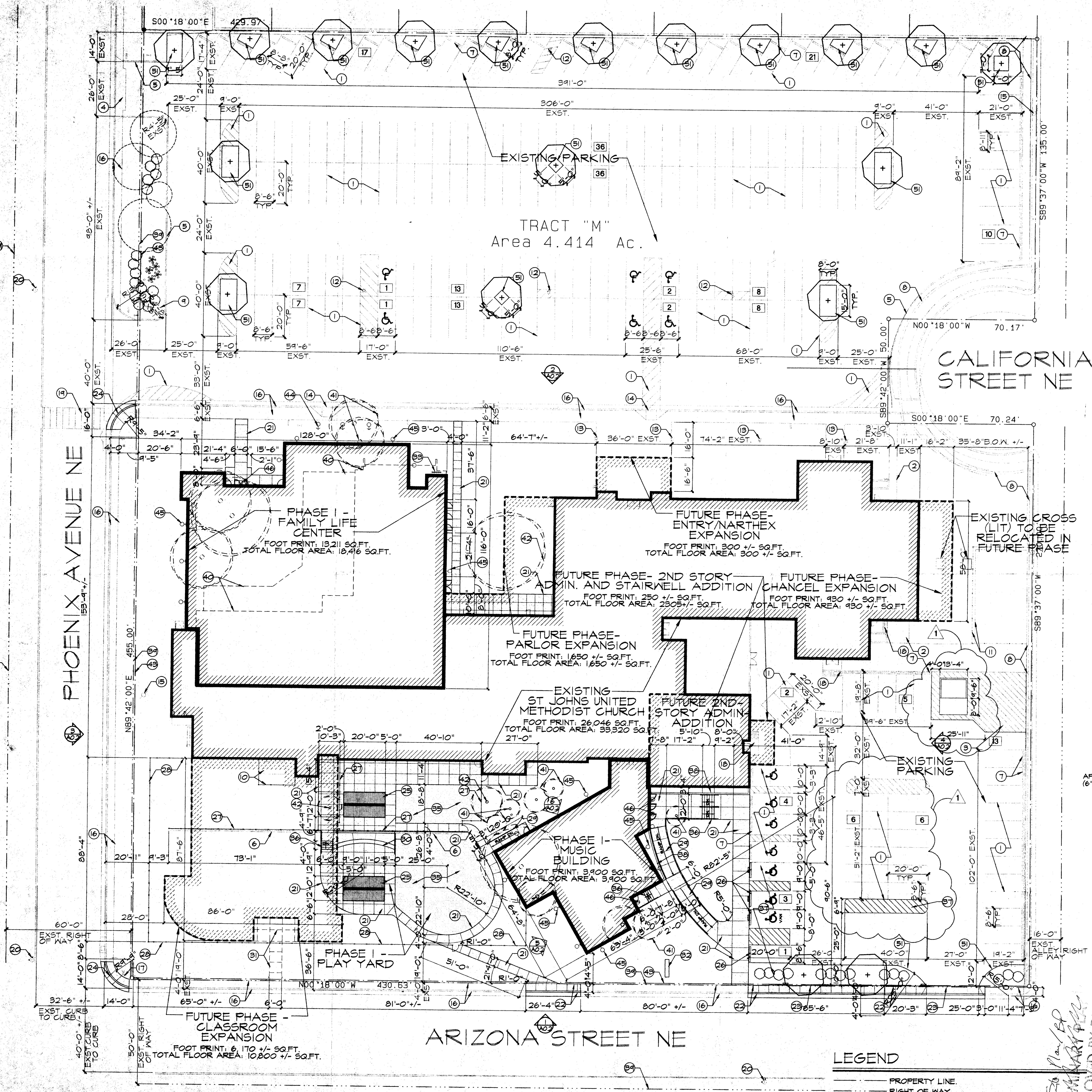
FENCE DETAIL

EXISTING SIGN

SCALE: NOT TO SCALE

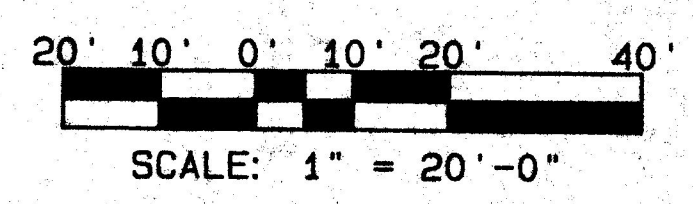
DRB SUBMITTAL SHEET #1 - SITE PLAN

PROJECT TITLE ST. JOHN'S UNITED METHODIST CHURCH ADDITIONS + RENOVATIONS	REVISIONS SOLID WASTE REQUIREMENT
ST. JOHN'S UNITED METHODIST CHURCH 2626 ARIZONA NE ALBUQUERQUE, NM	JOB NUMBER: 9811
SHEET TITLE ARCHITECTURAL SITE PLAN	CUSTER-BASARICH, LTD. ARCHITECTS - PLANNERS, AIA 1000 W. 15th St. Suite 1000 ALBUQUERQUE, NM 87102
DATE AUG 13, 2002	SHEET NO. DRB-1



ARCHITECTURAL SITE PLAN

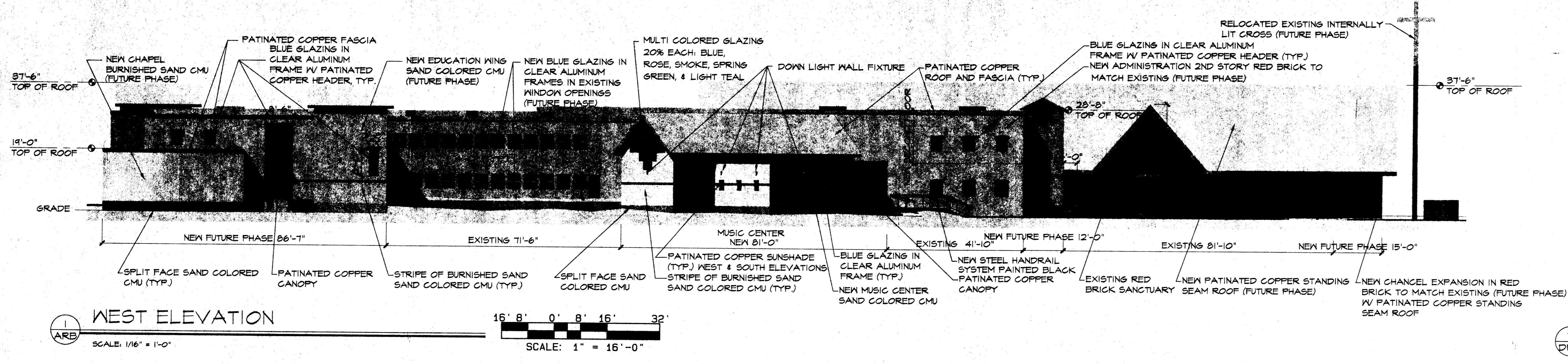
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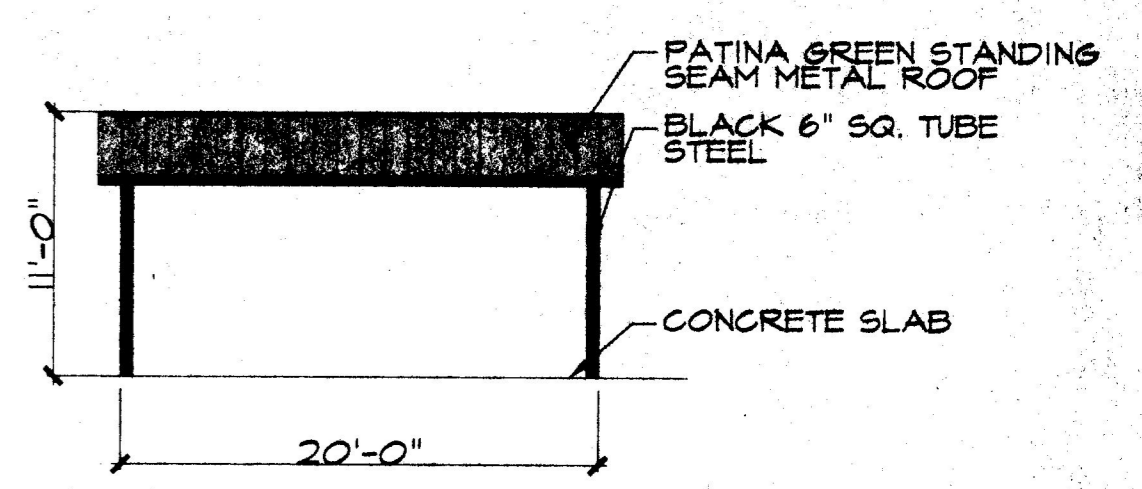
- LEGEND**
- PROPERTY LINE.
 - RIGHT OF WAY.
 - EXISTING CONSTRUCTION.
 - NEW CONSTRUCTION.
 - FUTURE CONSTRUCTION.
 - TREE TO BE REMOVED. SEE NOTES 41 & 42.

PREPARED BY
 APPROVED BY DRB
 ON 8/23/02
 DRB 40 PC

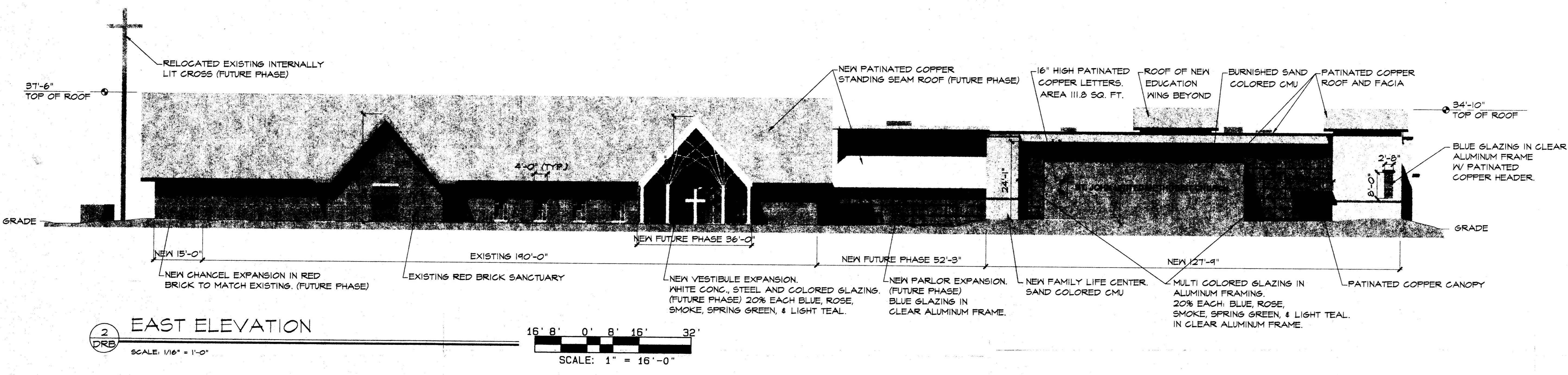
FILE NO. PLOT SCALE DRAWN BY DWG PLOT DATE 8/18/02 XREF FILE: PLANNING



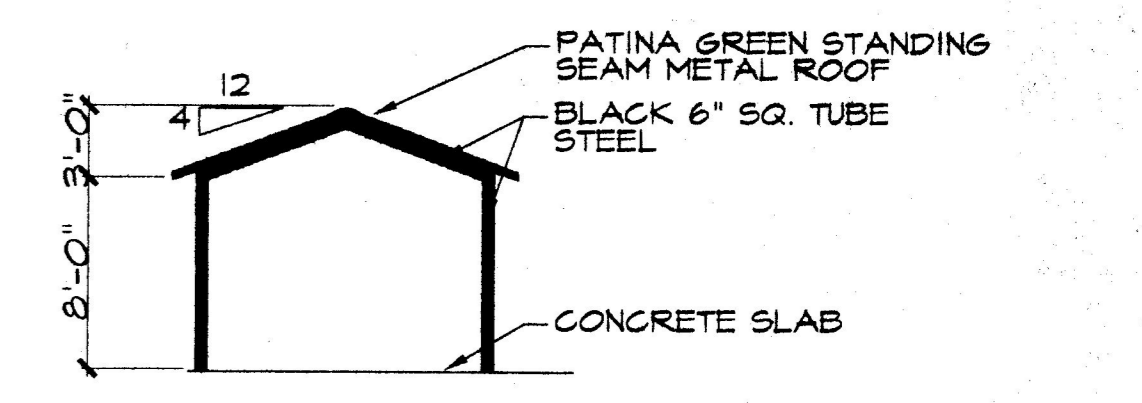
1 WEST ELEVATION
 SCALE: 1/16" = 1'-0"
 SCALE: 1" = 16'-0"



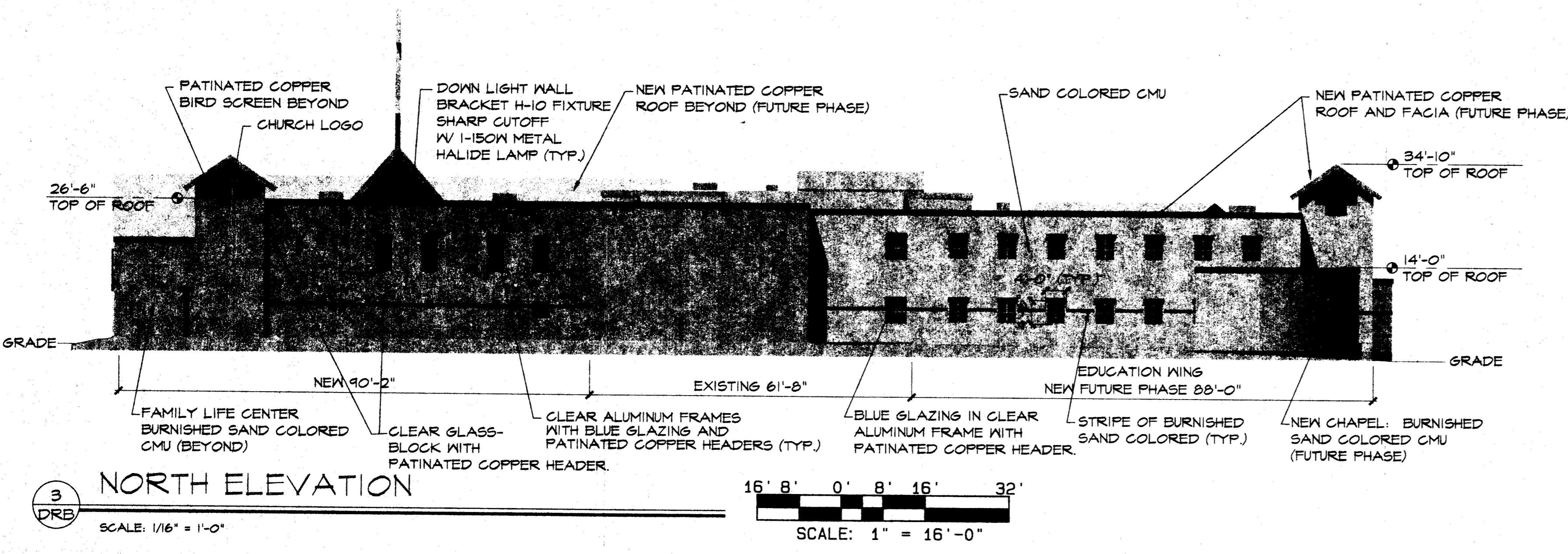
7 WEST ELEVATION- SHADE STRUCTURE
 SCALE: 1/8" = 1'-0"



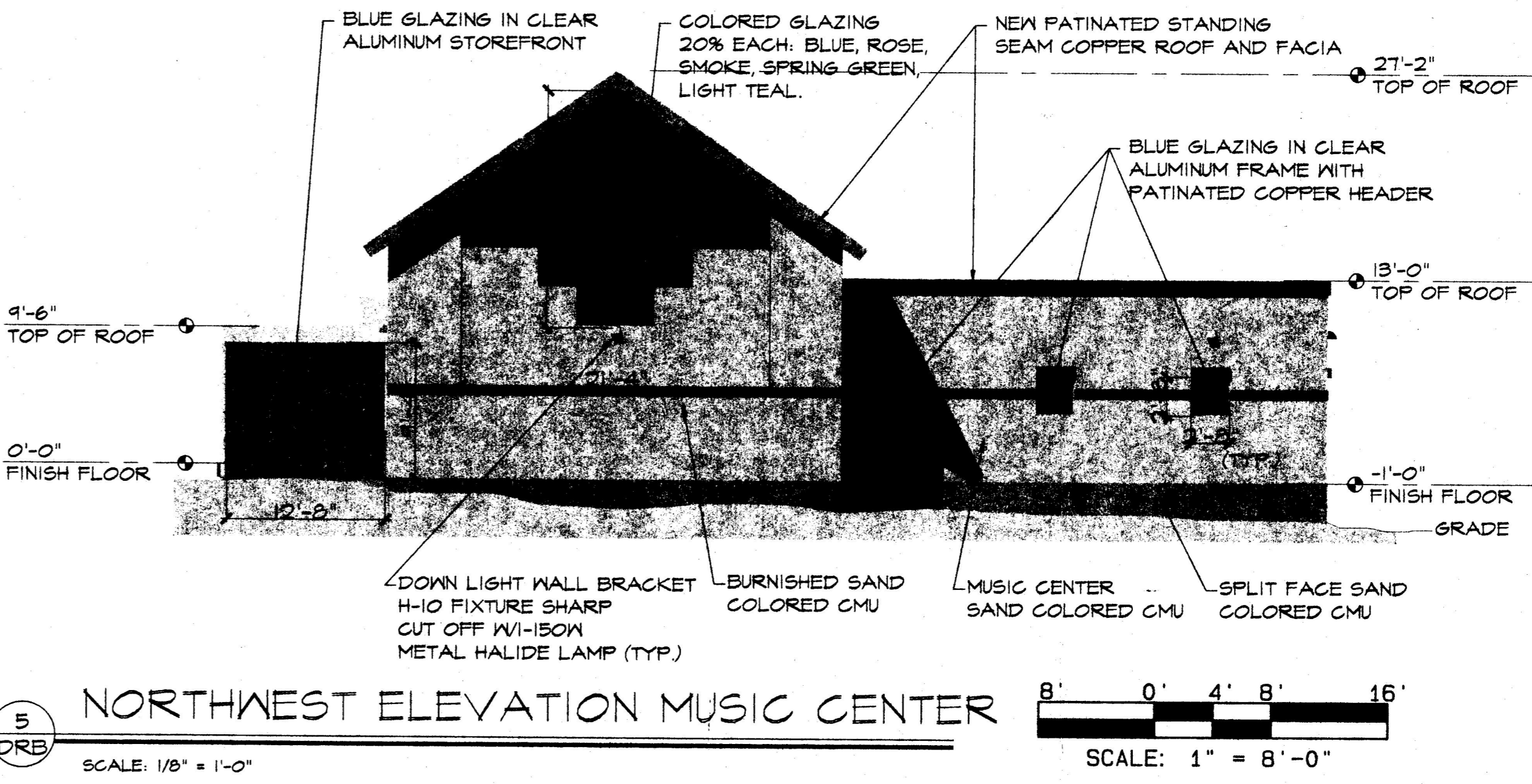
2 EAST ELEVATION
 SCALE: 1/16" = 1'-0"
 SCALE: 1" = 16'-0"



8 END ELEVATION- SHADE STRUCTURE
 SCALE: 1/8" = 1'-0"

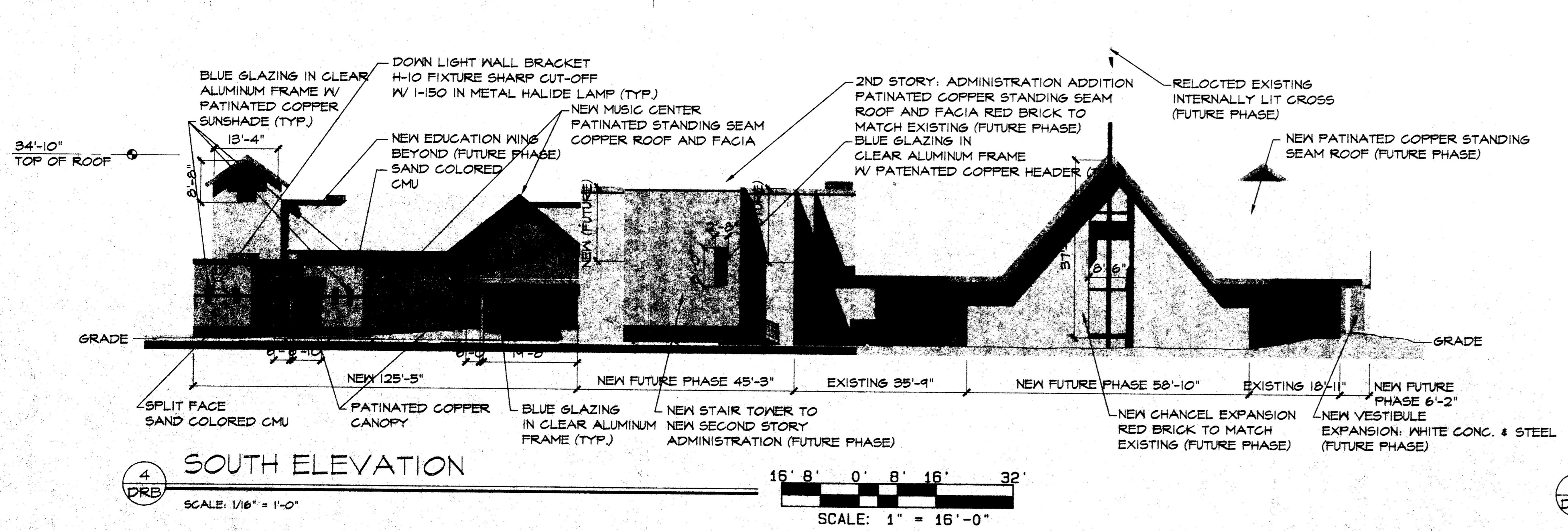


3 NORTH ELEVATION
 SCALE: 1/16" = 1'-0"
 SCALE: 1" = 16'-0"

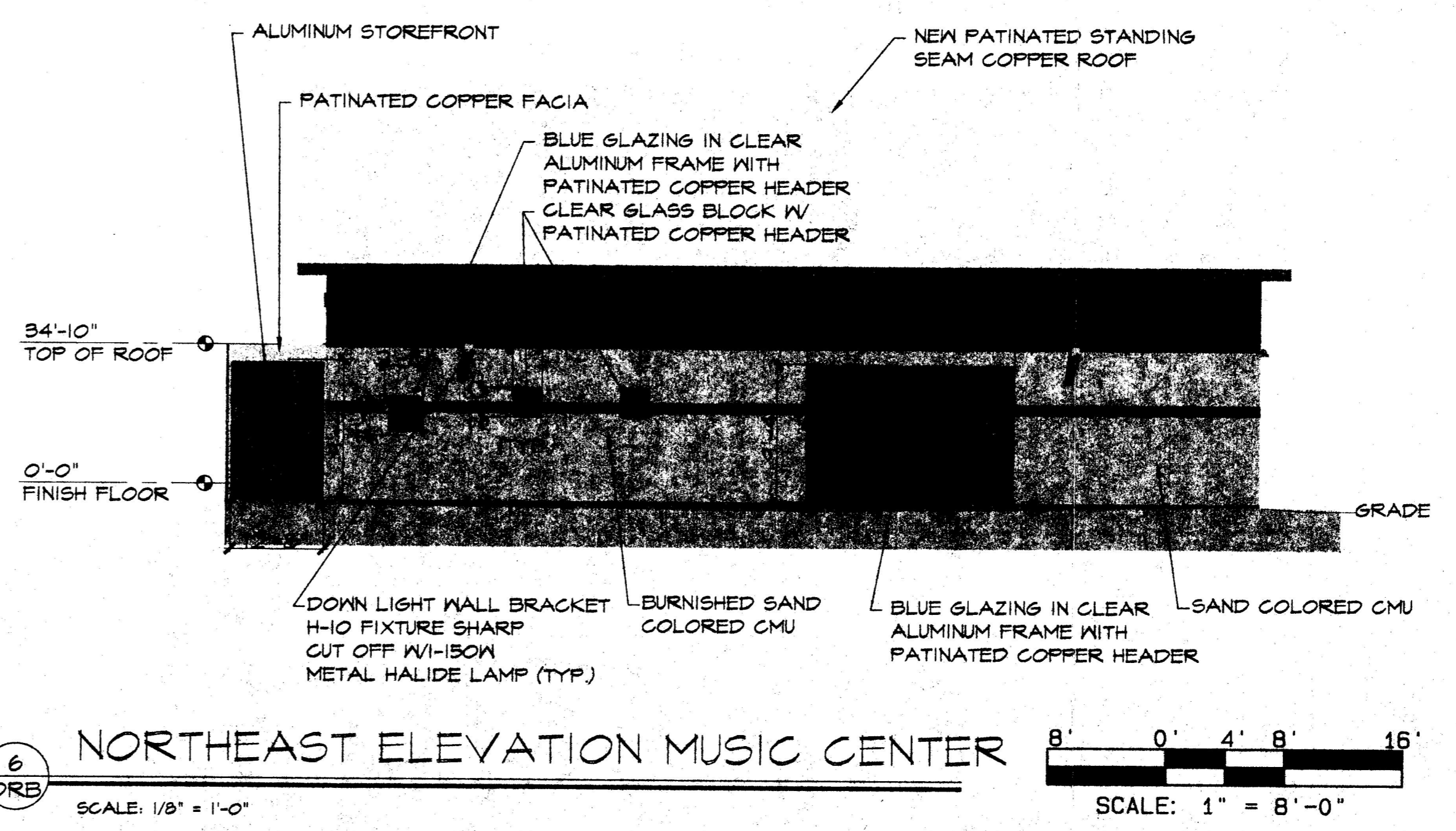


5 NORTHWEST ELEVATION MUSIC CENTER
 SCALE: 1/8" = 1'-0"
 SCALE: 1" = 8'-0"

NOTE: ALL BUILDING LIGHT FIXTURES SHALL COMPLY WITH THE 'NIGHT SKY PROTECTION ACT'



4 SOUTH ELEVATION
 SCALE: 1/16" = 1'-0"
 SCALE: 1" = 16'-0"

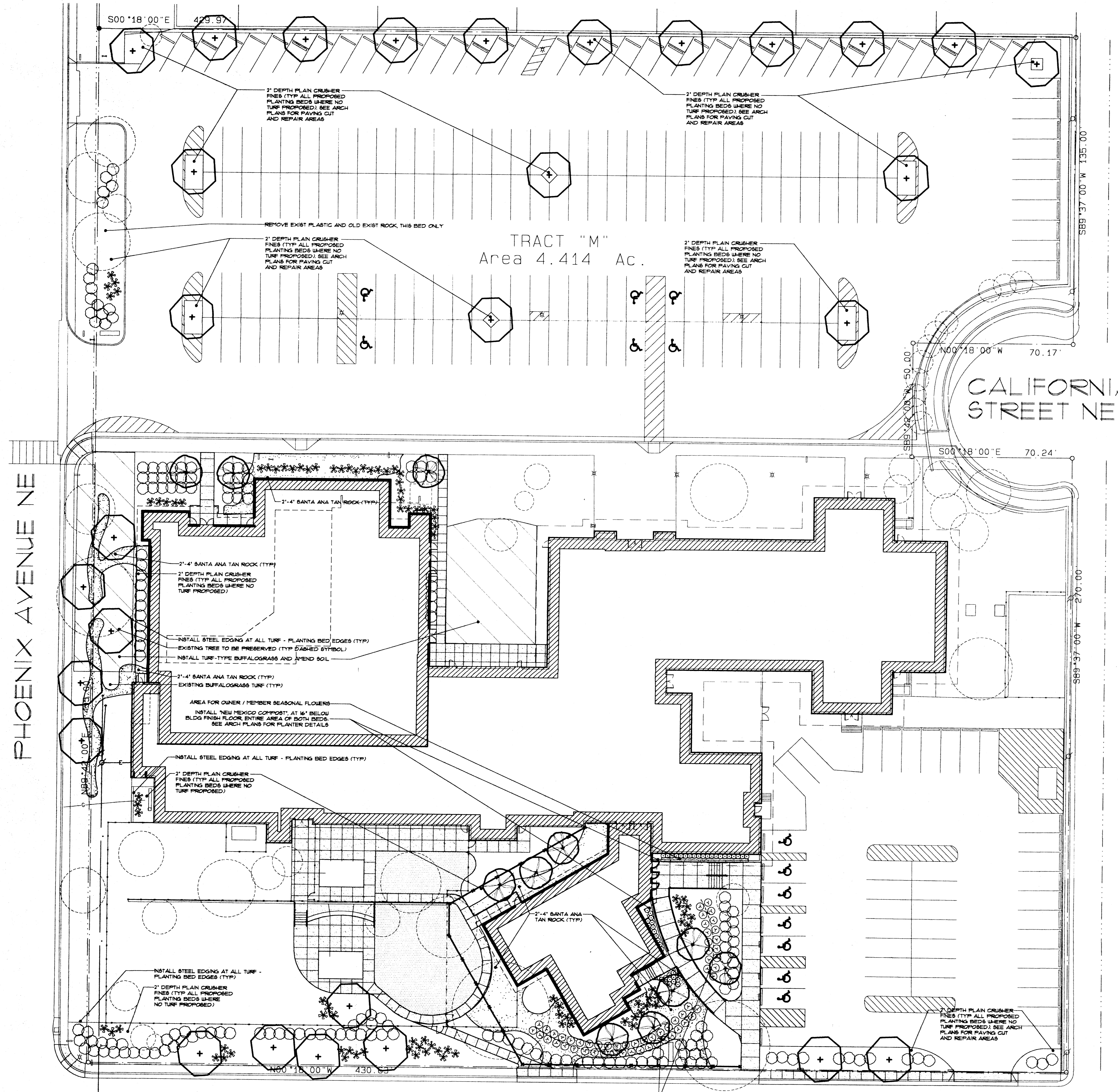


6 NORTHEAST ELEVATION MUSIC CENTER
 SCALE: 1/8" = 1'-0"
 SCALE: 1" = 8'-0"

DRB/ EPC SUBMITTAL SHEET #5-BUILDING ELEVATIONS

PROJECT TITLE ST. JOHN'S UNITED METHODIST CHURCH ADDITIONS AND RENOVATION	REVISIONS
ST. JOHN'S UNITED METHODIST CHURCH 2626 ARIZONA NE ALBUQUERQUE, NM	JOB NUMBER 9811
SHEET TITLE EXTERIOR ELEVATIONS	
CUSTER • BASARICH, LTD. ARCHITECTS • PLANNERS, AIA 140 SOUTH G.E. SUITE 2000 ALBUQUERQUE, NM 87102 (505) 263-1000	SHEET NO. DRB-5
DATE AUG. 13, 2002	

FILE NO. PLOT SCALE 1" = 30'-0" DRAWN BY DAC PLOT DATE XREF FILES



GENERAL
 INFORMATION PROVIDED IN THESE DRAWINGS ARE INTENDED FOR LANDSCAPE DESIGN PURPOSES NOT AS A COMPREHENSIVE SITE SURVEY. USE WITH ALL NOTES, LEGENDS, AND SPECIFICATIONS ATTACHED. ALL INSTALLATION WORK SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS, MATERIALS, AND LOCATIONS ARE SUBJECT TO THE APPROVAL OF THE LANDSCAPE DESIGNER PRIOR TO CONTINUED WORK ON PROJECT. ANY DEVIATION FROM THE PLAN SHALL BE IDENTIFIED TO THE LANDSCAPE DESIGNER FOR HIS APPROVAL PRIOR TO PURCHASE. NO NON-APPROVED SUBSTITUTIONS SHALL BE ALLOWED AT THE SITE. ANY QUERIES OR RESPONSIBILITY FOR THESE DRAWINGS RELATED WORK IS COMPLETELY HULL AND VOID IF ANY FIELD CHANGES ARE MADE BY PARTIES OTHER THAN THE DESIGNER. AUTOMATICALLY BY CLIPPING TO THE HOLE WITHOUT AUTHORIZATION FROM THE DESIGNER.

EMERGENCY PLANNING: ANY PERSON INVOLVED IN AN EMERGENCY SHALL CONTACT CLIENT AND ALL OTHER ASSOCIATED WITH TO CANCEL AND RESCHEDULE ALL MEETINGS PRIOR TO MEETING WORK.

FOR WORK RELATED TO THESE DRAWINGS REFER TO ANY OTHER NOTES, LEGENDS, DETAILS, SPECIFICATIONS AND DRAWINGS RELATED OR ATTACHED.

CONTRACTOR / INSTALLER RESPONSIBILITY: BID / PROPOSAL. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING CORRECT QUANTITIES AND ANY DISCREPANCIES WITH DESIGNER. CONTRACTOR SHALL COORDINATE PROJECTED START AND COMPLETION DATES WITH THE SCHEDULE FOR EACH TASK TO DESIGNER AND CLIENT. UPON COMPLETION OF SUBPROPOSAL, CONTRACTOR SHALL SUBMIT ONE COPY TO DESIGNER FOR REVIEW PRIOR TO CLIENT SUBMISSION. UPON REVIEW CONTRACTOR SHALL MAKE ANY NECESSARY CORRECTIONS. CONFIRM WITH DESIGNER, THEN SUBMIT TO CLIENT FOR FINAL APPROVAL.

CONTRACTOR / INSTALLER RESPONSIBILITY: PRE-INSTALLATION
 ARRANGE AND PROVIDE FOR ALL MATERIALS AND LABOR NECESSARY TO COMPLETE THE INSTALLATION AS PER DRAWINGS IN ACCORDANCE WITH THE CONTRACT. DUE TO LIMITED PLANT AVAILABILITY, CONTRACTOR SHALL MAKE ANY NECESSARY CORRECTIONS TO THE DRAWINGS FOR ANY CONTRACT GRASSING TO MEET PROJECT REQUIREMENTS.

CONTRACTOR / INSTALLER RESPONSIBILITY: POST-INSTALLATION
 ARRANGE AND PROVIDE FOR ALL MATERIALS AND LABOR NECESSARY TO COMPLETE THE INSTALLATION AS PER DRAWINGS IN ACCORDANCE WITH THE CONTRACT. DUE TO LIMITED PLANT AVAILABILITY, CONTRACTOR SHALL MAKE ANY NECESSARY CORRECTIONS TO THE DRAWINGS FOR ANY CONTRACT GRASSING TO MEET PROJECT REQUIREMENTS.

CONTRACTOR / INSTALLER RESPONSIBILITY: MAINTENANCE
 MAINTAIN ALL PLANTS AND MATERIALS IN ACCORDANCE WITH THE CONTRACT. MAINTENANCE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR UNLESS OTHERWISE NOTED IN DRAWINGS AND CLIENT PRIOR TO REPAIRS OR REPLACEMENTS.

CONTRACTOR / INSTALLER RESPONSIBILITY: IRRIGATION
 IRRIGATION SHALL BE INSTALLED AND FUNCTIONING ON THE DATE OF COMPLETION OF THE PROJECT. IRRIGATION SHALL BE INSTALLED IN ACCORDANCE WITH THE CONTRACT. IRRIGATION SHALL BE INSTALLED IN ACCORDANCE WITH THE CONTRACT.

CONTRACTOR / INSTALLER RESPONSIBILITY: PLANTING
 PLANTING SHALL BE INSTALLED IN ACCORDANCE WITH THE CONTRACT. PLANTING SHALL BE INSTALLED IN ACCORDANCE WITH THE CONTRACT.

CONTRACTOR / INSTALLER RESPONSIBILITY: SOIL
 SOIL SHALL BE INSTALLED IN ACCORDANCE WITH THE CONTRACT. SOIL SHALL BE INSTALLED IN ACCORDANCE WITH THE CONTRACT.

CONTRACTOR / INSTALLER RESPONSIBILITY: TURF
 TURF SHALL BE INSTALLED IN ACCORDANCE WITH THE CONTRACT. TURF SHALL BE INSTALLED IN ACCORDANCE WITH THE CONTRACT.

CONTRACTOR / INSTALLER RESPONSIBILITY: STONE
 STONE SHALL BE INSTALLED IN ACCORDANCE WITH THE CONTRACT. STONE SHALL BE INSTALLED IN ACCORDANCE WITH THE CONTRACT.

CONTRACTOR / INSTALLER RESPONSIBILITY: FERTILIZER
 FERTILIZER SHALL BE INSTALLED IN ACCORDANCE WITH THE CONTRACT. FERTILIZER SHALL BE INSTALLED IN ACCORDANCE WITH THE CONTRACT.

CONTRACTOR / INSTALLER RESPONSIBILITY: MULCH
 MULCH SHALL BE INSTALLED IN ACCORDANCE WITH THE CONTRACT. MULCH SHALL BE INSTALLED IN ACCORDANCE WITH THE CONTRACT.

CONTRACTOR / INSTALLER RESPONSIBILITY: EDGING
 EDGING SHALL BE INSTALLED IN ACCORDANCE WITH THE CONTRACT. EDGING SHALL BE INSTALLED IN ACCORDANCE WITH THE CONTRACT.

CONTRACTOR / INSTALLER RESPONSIBILITY: SIGNAGE
 SIGNAGE SHALL BE INSTALLED IN ACCORDANCE WITH THE CONTRACT. SIGNAGE SHALL BE INSTALLED IN ACCORDANCE WITH THE CONTRACT.

CONTRACTOR / INSTALLER RESPONSIBILITY: LIGHTING
 LIGHTING SHALL BE INSTALLED IN ACCORDANCE WITH THE CONTRACT. LIGHTING SHALL BE INSTALLED IN ACCORDANCE WITH THE CONTRACT.

CONTRACTOR / INSTALLER RESPONSIBILITY: FENCE
 FENCE SHALL BE INSTALLED IN ACCORDANCE WITH THE CONTRACT. FENCE SHALL BE INSTALLED IN ACCORDANCE WITH THE CONTRACT.

CONTRACTOR / INSTALLER RESPONSIBILITY: UTILITY
 UTILITY SHALL BE INSTALLED IN ACCORDANCE WITH THE CONTRACT. UTILITY SHALL BE INSTALLED IN ACCORDANCE WITH THE CONTRACT.

CONTRACTOR / INSTALLER RESPONSIBILITY: OTHER
 OTHER SHALL BE INSTALLED IN ACCORDANCE WITH THE CONTRACT. OTHER SHALL BE INSTALLED IN ACCORDANCE WITH THE CONTRACT.

ADDITIONAL GENERAL NOTES:
 ALL EXISTING VEGETATION SHALL BE PRESERVED EXCEPT WHERE:
 - POTENTIAL ROOT DAMAGE FROM NEW CONSTRUCTION
 - POOR OR DETERIORATING HEALTH CONDITION
 - LACK OF APPROPRIATENESS TO LOW-MEDIUM WATER USE

IRRIGATION:
 ALL IRRIGATION FOR THIS PROJECT SHALL BE ZONED BASED ON WATER NEEDS AND VALVE SIZING.
 ALL IRRIGATION VALVES WILL BE AUTOMATICALLY CONTROLLED BY A MULTI-PROGRAM DIGITAL IRRIGATION CONTROLLER SYSTEM.
 EXISTING POP-UP IRRIGATION SHALL BE USED FOR EXISTING PLANTINGS NEW IRRIGATION PARTS SHALL BE USED FOR ALL PROPOSED LANDSCAPING.
 ALL PLANTINGS SHALL BE IRRIGATED USING LOW-GALLONAGE DRIP EMISSIONS WITH POLYETHYLENE TUBING.
 ALL PROPOSED TURFGRASS AREAS SHALL BE IRRIGATED USING LOW-GALLONAGE POP-UP ROTARY IRRIGATION HEADS WITH RIGID PVC PIPING.
 RESPONSIBILITY FOR MAINTENANCE OF PROPOSED LANDSCAPING, THE OWNER OR HIRED CONTRACTOR, UNLESS PART OF CONTRACTOR WARRANTY.

STATEMENT OF WATER WASTE:
 THE LANDSCAPE DESIGN WILL COMPLY WITH THE CURRENT WATER CONSERVATION ORDINANCE AND THE WATER WASTE MANAGEMENT ORDINANCE FROM THE CITY OF ALBUQUERQUE.

LANDSCAPED AREA:
 AREA: 28,140 SF
 REQUIRED LANDSCAPING: 100% PERCENT OF PROPERTY SITE AREA: 28,140 SF
 PROVIDED LANDSCAPING: 100% PERCENT OF PROPERTY SITE AREA: 28,140 SF
 BUILDING ADDITIONS: 0% PERCENT OF PROPERTY SITE AREA: 0 SF
 HIGH WATER-USE TURF AREAS: 0% PERCENT OF LANDSCAPE AREA: 0 SF
 EXISTING AREAS: 0% PERCENT OF LANDSCAPE AREA: 0 SF
 PROPOSED AREAS: 0% PERCENT OF LANDSCAPE AREA: 0 SF

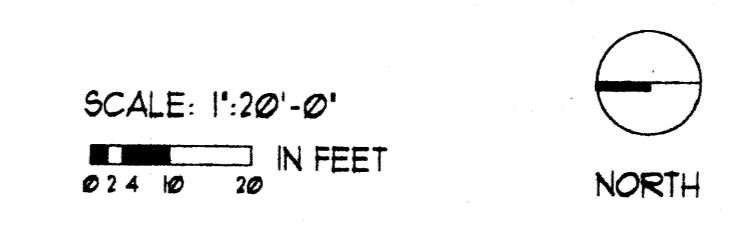
SCALE: 1" = 20'-0"
 0 10 20 FEET

DRB SUBMITTAL SHEET #2 - LANDSCAPE PLAN

ARIZONA STREET NE

PLANTING LEGEND

SYMBOL	EST QTY	SIZE	MIN HTxWD	COMMON NAME	BOTANICAL NAME	IRRIG / OTHER NOTES
	25	24"-Box	8'x4'	ESCAPPEMENT LIVE OAK	<i>Quercus laevis</i>	4 - 4 GPH DRIP, 4" END
	11	8"-Gal	1'x3'	EASTERN REDBUD	<i>Cercis canadensis</i>	3 - 4 GPH DRIP, 4" END
Shrubs (For general landscaping)						
	43	1"-Gal	8'x8'	PROVENCE LAVENDER	<i>Lavandula angustifolia</i> Provence	1 - 2 GPH DRIP
Substrata (For screening and buffering, plus general landscaping)						
	44	8"-Gal	2'x2'	RED HESPERALOE	<i>Hesperaloe parviflora</i>	IRRIG / OTHER NOTES
	50	1"-Gal	8'x6'	RED HESPERALOE	<i>Hesperaloe parviflora</i>	1 - 2 GPH DRIP, MIX DIFF. SIZES
Ground Cover (For general landscaping)						
	110	1"-Gal	8'x3'	THOMPSON BRODIAEA	<i>Brodiaea s. Stearns</i>	1 - 2 GPH DRIP ADDITIVE ALT
	57	1"-Gal	8'x6'	REGAL MIST GRASS	<i>Muhlenbergia capillaris</i> Regal Mist	1 - 2 GPH DRIP



DRB SUBMITTAL SHEET #2 - LANDSCAPE PLAN

PROJECT TITLE: ST. JOHN'S UNITED METHODIST CHURCH
 ADDITIONS AND RENOVATIONS
 ALBUQUERQUE, NEW MEXICO

REVISIONS: [Blank]
 JOB NUMBER: 9811

PLANTING PLAN

DATE: 8/13/2002
 SHEET NO.: L2.0

STATE OF NEW MEXICO
 LANDSCAPE ARCHITECT
 DAVID CRISTIAN
 200 Serenity Hills Place SE
 Albuquerque, NM 87123
 phone: 505.269.6466
 fax: 505.276.7298 (cell text)
 email: qc@clayton.com

CUSTER • BASARICH, LTD.
 ARCHITECTS • PLANNERS, AIA
 1400 CHURCH ST. SUITE 200
 ALBUQUERQUE, NM 87102
 phone: 505.263.1000
 fax: 505.263.1000

FILE NO. PLOT SCALE PLOT DATE DRAWN BY DMC XREF FILES P&L/DWG

File Path: \\mtn\proj\05-23-2002
 File Name: 10512C.DWG
 Plot Time: 1:55 pm

MH (SD)
 RIM = 5273.73
 INV. IN(N) (12" RCP) = 5267.93
 INV. IN(N) (24" RCP) = 5262.55
 INV. OUT(W) (24" RCP) = 5255.96

MH (SAS) (MAY BE ABANDONED)
 RIM = 5269.99
 INV. IN(N) (6") = SAND FILLED
 INV. OUT(S) (6") = 5260.89

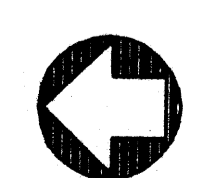
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 RIM = 5283.43
 INV. IN(N) (6") = 5254.08
 INV. OUT(S) (6") = 5254.15

MH (SAS)
 RIM = 5283.21
 INV. IN(N) (6") = 5253.08
 INV. OUT(S) (6") = 5253.01

MH (SAS)
 RIM = 5283.24
 INV. IN(N) (6") = 5252.39
 INV. IN(C) (12") = 5251.09
 INV. OUT(W) (12") = 5251.04

GRADING AND DRAINAGE PLAN

SCALE: 1" = 20'-0"



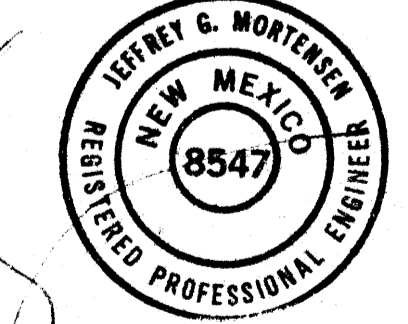
NOTE:
 THIS IS NOT A BOUNDARY SURVEY. APPARENT PROPERTY CORNERS ARE SHOWN FOR INFORMATION ONLY. BOUNDARY AND TOPOGRAPHIC INFORMATION SHOWN ARE BASED UPON A TOPOGRAPHIC SURVEY BY RED MOUNTAIN ENGINEERS, INC., DATED MAY 07, 2002

2001.061.2



JEFF MORTENSEN & ASSOCIATES, INC.
 6010-B MIDWAY PARK BLVD. N.E.
 ALBUQUERQUE, NM NEW MEXICO 87109
 ENGINEERS & SURVEYORS (CSD) 345-4250
 FAX: 505-345-4254 Email: jma@jma-cvpc.com

APPROVALS	NAME	DATE
HYDROLOGY		
SIDEWALK INSPECTOR		
STORM DRAIN MAINTENANCE		



05-28-2002

DRB EPC SUBMITTAL SHEET #3 - GRADING PLAN

PROJECT TITLE
ST. JOHN'S UNITED METHODIST CHURCH ALBUQUERQUE, NM

REVISIONS
 1. DATE: 04/19/2002
 BY: JMA
 CHECKED: JMA

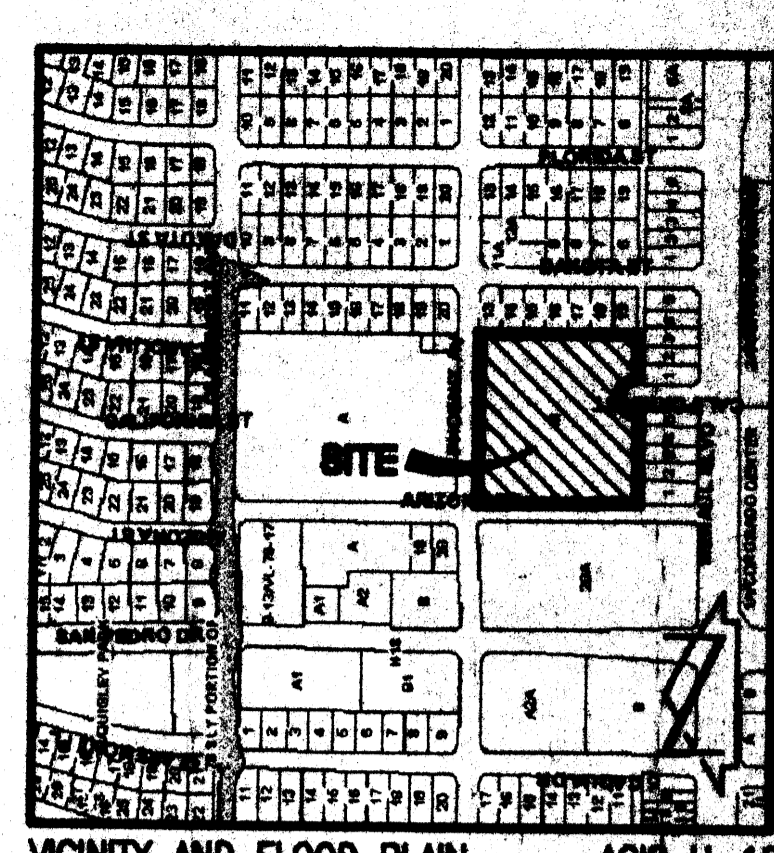
ST. JOHN'S UNITED METHODIST CHURCH

JOB NUMBER
 9811

SHEET TITLE
GRADING & DRAINAGE PLAN

DATE
 MAY 28, 2002

SHEET NO.
 C.1



CONSTRUCTION NOTES:

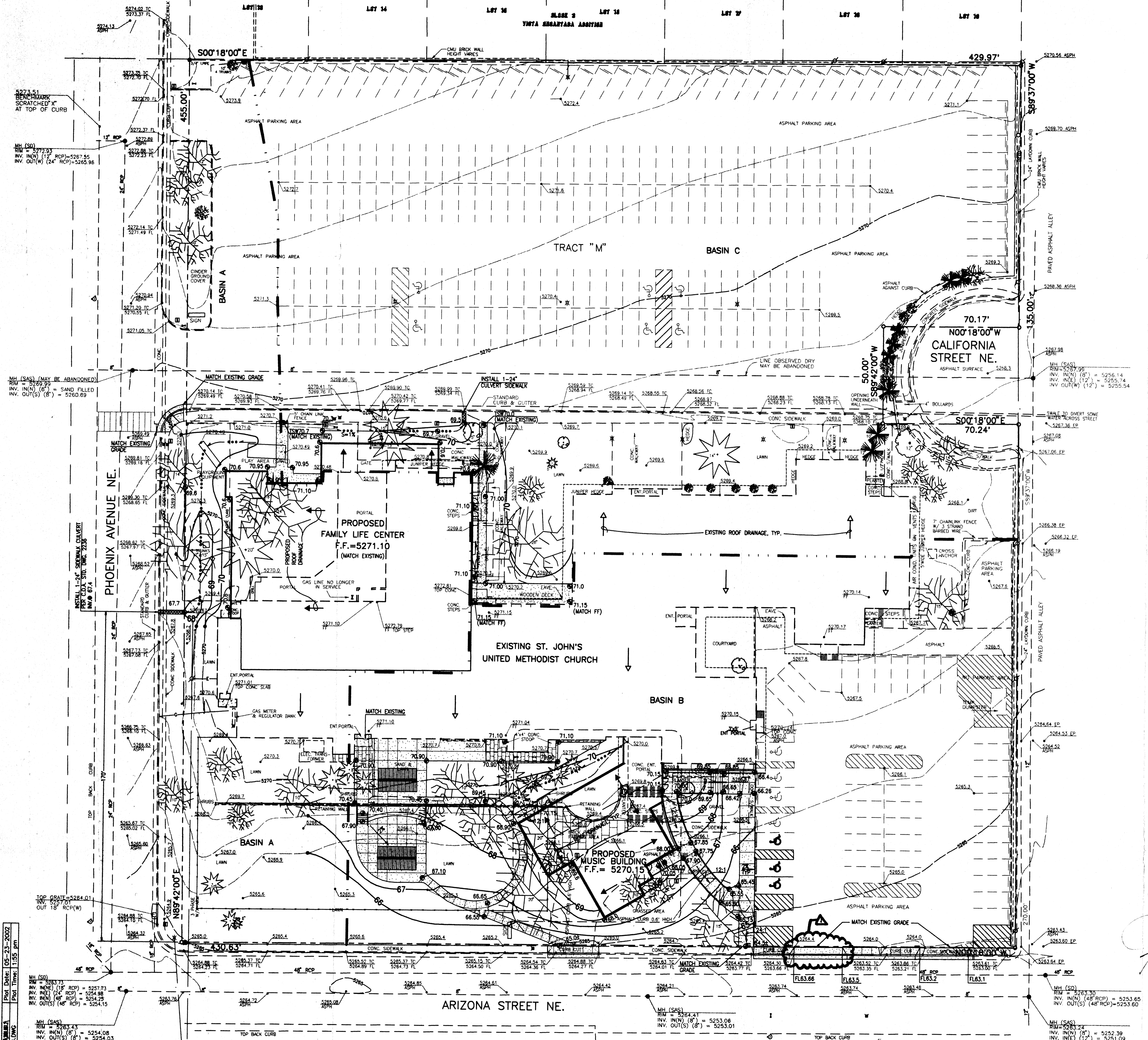
- TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL SYSTEM 220-1800 (ALBUQUERQUE AREA), 1-800-321-ALERT(2537) (STATEWIDE), FOR LOCATION OF EXISTING UTILITIES.
- PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL POTENTIAL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL INTERFERENCES IT MAKES WITHOUT FIRST CONTACTING THE ENGINEER AS REQUIRED ABOVE.
- ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, RULES AND REGULATIONS CONCERNING CONSTRUCTION SAFETY AND HEALTH.
- ALL CONSTRUCTION WITHIN PUBLIC RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE CITY OF ALBUQUERQUE STANDARDS AND PROCEDURES.
- IF ANY UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES ARE SHOWN ON THESE DRAWINGS, THEY ARE SHOWN IN AN APPROXIMATE MANNER ONLY, AND SUCH LINES MAY EXIST WHERE NONE ARE SHOWN. IF ANY SUCH EXISTING LINES ARE SHOWN, THE LOCATION IS BASED UPON INFORMATION PROVIDED BY THE OWNER OF SAID UTILITY. NO PRELIMINARY INVESTIGATION OF THE LOCATION, DEPTH, SIZE, OR TYPE OF EXISTING UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES, THIS INVESTIGATION IS NOT CONCLUSIVE, AND MAY NOT BE COMPLETE, THEREFORE, MAKES NO REPRESENTATION PERTAINING THERETO, AND ASSUMES NO RESPONSIBILITY OR LIABILITY FOR ANY AND ALL DAMAGE CAUSED BY FAILURE TO LOCATE, IDENTIFY AND PRESERVE ANY AND ALL EXISTING UTILITIES, PIPELINES, AND UNDERGROUND UTILITY LINES. IN PLANNING AND CONDUCTING EXCAVATION, THE CONTRACTOR SHALL COMPLY WITH STATE STATUTES, MUNICIPAL AND LOCAL ORDINANCES, RULES AND REGULATIONS, IF ANY, PERTAINING TO THE LOCATION OF THESE LINES AND FACILITIES.
- AN EXCAVATION/CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN CITY RIGHT-OF-WAY. AN APPROVED COPY OF THESE PLANS MUST BE SUBMITTED AT THE TIME OF APPLICATION FOR THIS PERMIT.
- BACKFILL COMPACTION SHALL BE ACCORDING TO RESIDENTIAL STREET USE.
- MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.
- THE DESIGN OF PLANTERS AND LANDSCAPED AREAS IS NOT PART OF THIS PLAN. PLANTERS AND LANDSCAPED AREAS ADJACENT TO THE BUILDING(S) SHALL BE PROVIDED WITH POSITIVE DRAINAGE TO AVOID ANY FLOWING ADJACENT TO THE STRUCTURE. FOR CONSTRUCTION DETAILS, REFER TO LANDSCAPING PLAN.

- EROSION CONTROL MEASURES:
- THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE INTO PUBLIC RIGHT-OF-WAY OR ONTO PRIVATE PROPERTY.
 - THE CONTRACTOR SHALL PROMPTLY CLEAN UP ANY MATERIAL EXCAVATED WITHIN THE PUBLIC RIGHT-OF-WAY SO THAT THE EXCAVATED MATERIAL IS NOT SUSCEPTIBLE TO BEING WASHED DOWN THE STREET.
 - THE CONTRACTOR SHALL SECURE "TOPSOIL DISTURBANCE PERMIT" PRIOR TO BEGINNING CONSTRUCTION.

LEGAL DESCRIPTION
 TRACT "M", ST. JOHN'S METHODIST CHURCH OF ALBUQUERQUE, INC. WITHIN VISTA ENCHANTADA ADDITION

PROJECT BENCHMARK
 ACS 3 1/4" ALUMINUM CAP SET FLUSH IN THE TOP OF A CURB AND STAMPED "17-H18 1987" STATION IS LOCATED IN THE SOUTHEAST QUADRANT OF THE INTERSECTION OF SAN PEDRO BOULEVARD, N.E. AND MENAUL BOULEVARD N.E.
 ELEVATION = 5255.71 FEET (NOV 1929)

- LEGEND**
- TC TOP OF CURB
 - FL FLOWLINE
 - TSW TOP SIDEWALK
 - EXISTING SPOT ELEVATION
 - EXISTING CONTOUR
 - SEWER CLEANOUT
 - TELEPHONE PEDESTAL
 - WATER METER
 - ELECTRIC METER
 - POWER POLE AND GUY WIRE
 - GAS METER
 - GAS VALVE
 - FIRE HYDRANT
 - CABLE TELEVISION
 - LIGHT POLE
 - TRANSFORMER
 - SIGN
 - IRRIGATION CONTROL VALVE
 - APPROX. LOCATION AND DRIFLINE OF PINNAC TREE
 - APPROX. LOCATION AND DRIFLINE OF JUNIPER TREE
 - APPROX. LOCATION AND DRIFLINE OF PINE TREE
 - APPROX. LOCATION AND DRIFLINE OF DECIDUOUS TREE
 - OVERHEAD ELECTRIC LINE
 - STORM DRAIN
 - SANITARY SEWER
 - UNDERGROUND TELEPHONE
 - (LOCATION BASED ON OLD UTILITY SPOTS)
 - BASIN BOUNDARY
 - PROPOSED CONTOUR
 - PROPOSED ELEVATION



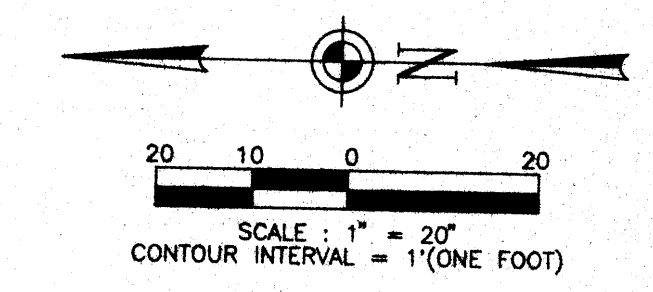
TOPOGRAPHIC SURVEY

OF TRACT "M" ST. JOHN'S METHODIST CHURCH OF ALBUQUERQUE, INC. WITHIN VISTA ENCANTADA ADDITION

CITY OF ALBUQUERQUE BERNALILLO COUNTY, NEW MEXICO

- NOTES**
- BOUNDARY DATA FOR THIS SURVEY OBTAINED FROM A PLAT OF SURVEY ENTITLED "SUMMARY PLAT OF TRACT 'M' OF ST. JOHN'S METHODIST CHURCH OF ALBUQUERQUE, INC. WITHIN VISTA ENCANTADA ADDITION" RECORDED IN THE BERNALILLO COUNTY CLERK'S OFFICE IN VOL.815 FOL.176 ON JAN.05, 1979
 - ELEVATION DATUM IS BASED ON NGVD29, AND IS TAKEN FROM A CITY OF ALBUQUERQUE CONTROL MONUMENT "17-H18" HAVING A PUBLISHED ELEV. OF 5255.712 FEET. CONTOUR INTERVAL = 1' (ONE FOOT).
 - THIS IS NOT A BOUNDARY SURVEY. LOT LINES AND RIGHT OF WAY ARE CALCULATED FROM PLAT REFERENCED IN NOTE NO. 1.
 - NO UNDERGROUND UTILITIES WERE LOCATED BY THIS SURVEY.
 - IMPROVEMENTS SHOWN ARE CURRENT AS OF DATE OF FIELD SURVEY, 04/25/2002

- LEGEND**
- DENOTES FOUND POINT AS NOTED
 - DENOTES CALCULATED POINT
 - ⊕ DENOTES SEWER CLEANOUT
 - ⊕ DENOTES TELEPHONE PEDESTAL
 - ⊕ DENOTES WATER METER
 - ⊕ DENOTES ELECTRIC METER
 - ⊕ DENOTES POWER POLE AND GUY WIRE
 - ⊕ DENOTES GAS METER
 - ⊕ DENOTES GAS VALVE
 - ⊕ DENOTES FIRE HYDRANT
 - ⊕ DENOTES CABLE TELEVISION
 - ⊕ DENOTES LIGHT POLE
 - ⊕ DENOTES TRANSFORMER
 - ⊕ DENOTES SIGN
 - ⊕ DENOTES IRRIGATION CONTROL VALVE
 - ⊕ DENOTES CONCRETE SURFACE
 - DENOTES APPROX. LOCATION AND DRIPLINE OF PINON TREE
 - DENOTES APPROX. LOCATION AND DRIPLINE OF JUNIPER TREE
 - DENOTES APPROX. LOCATION AND DRIPLINE OF PINE TREE
 - DENOTES APPROX. LOCATION AND DRIPLINE OF DECIDUOUS TREE
 - E— DENOTES OVERHEAD ELECTRIC LINE
 - SD— DENOTES STORM DRAIN
 - SAS— DENOTES SANITARY SEWER
 - UT— DENOTES UNDERGROUND TELEPHONE (LOCATION BASED ON OLD UTILITY SPOTS)



SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT THIS TOPOGRAPHIC SURVEY AND THE NOTES SHOWN HEREIN WERE PREPARED UNDER MY DIRECTION FROM A SURVEY PERFORMED IN THE FIELD TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF. THIS TOPOGRAPHIC SURVEY MEETS OR EXCEEDS THE REQUIREMENTS OF THE "MINIMUM STANDARDS FOR LAND SURVEYING IN NEW MEXICO".

Richard A. Morris
RICHARD A. MORRIS
N.M.P.S. No. 10277

MAY 7, 2002

**EPC SUBMITTAL
SHEET #6-EXISTING SITE SURVEY**

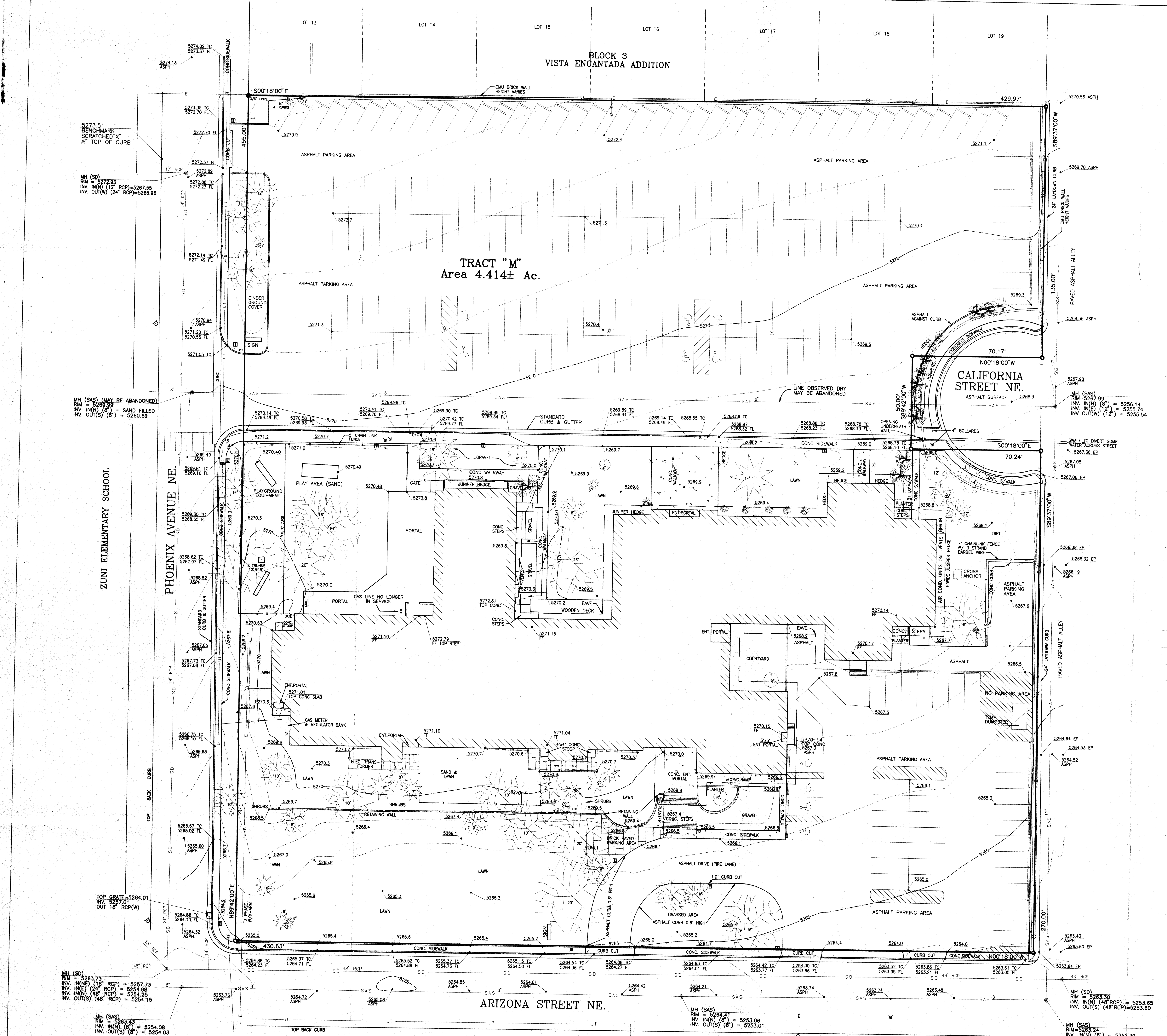
THIS IS NOT A BOUNDARY SURVEY. APPARENT LOT LINES, PROPERTY CORNERS, EASEMENTS AND RIGHT OF WAY ARE SHOWN FOR ORIENTATION ONLY. (SEE NOTE 1)

Red Mountain Engineers, Inc.
ENGINEERS-SURVEYORS

1216 Parkway Drive, Suite G, Albuquerque, NM 87107-1888
Phone: (505) 475-7375

2890 Pan American Freeway, Suite G, Albuquerque, NM 87110-1888
Phone: (505) 886-8064

DRAWN BY: B.P. SCALE: 1" = 20' CHECKED BY: R.A.M.
NAME: TRACT "M" VISTA ENCANTADA ADDITION PROJECT NO. 1218-106



DATE: 05/07/02
NAME: TRACT "M" 1218

DRAINAGE PLAN

I. INTRODUCTION AND EXECUTIVE SUMMARY

THIS PROJECT, LOCATED IN THE UPTOWN AREA OF THE NORTHEAST HEIGHTS, REPRESENTS PHASED MODIFICATIONS TO AN EXISTING CHURCH SITE WITHIN AN INFILL AREA. EACH PHASE, OR PHASE, WILL BE ABLE TO FUNCTION INDEPENDENTLY AND HENCE WILL NOT RELY UPON A DIFFERENT PHASE FOR PROPER DRAINAGE PERFORMANCE. THE DRAINAGE CONCEPT WILL BE THE CONTINUED FREE DISCHARGE OF RUNOFF TO THE EXISTING PAVED CITY STREETS THAT SURROUND THE FULLY DEVELOPED SITE.

THIS SUBMITTAL IS MADE IN SUPPORT OF A BUILDING PERMIT FOR THE PROPOSED BUILDING ADDITIONS AND SOF19 APPROVAL TO RELEASE SITE RUNOFF TO THE STREETS VIA SIDEWALK CULVERTS.

II. PROJECT DESCRIPTION

AS SHOWN BY CITY ZONE ATLAS PAGE H-18, THIS SITE IS LOCATED NORTH OF CORONADO SHOPPING CENTER. THE SITE IS BOUNDED ON THE NORTH BY PHOENIX AVENUE NE, ON THE EAST BY EXISTING RESIDENTIAL PROPERTIES, ON THE SOUTH BY A PUBLIC ALLEY AND ON THE WEST BY ARIZONA STREET NE. THE CURRENT LEGAL DESCRIPTION IS TRACT M OF ST. JOHN'S METHODIST CHURCH OF ALBUQUERQUE, INC. WITHIN VISTA ENCANTADA ADDITION, AS SHOWN BY PANEL 352 OF 825 OF THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAPS PUBLISHED BY FEMA FOR BERNALILLO COUNTY, NEW MEXICO, SEPTEMBER 20, 1996. THIS SITE DOES NOT LIE WITHIN OR ADJACENT TO A DESIGNATED FLOOD HAZARD ZONE. FURTHERMORE, THE SITE DOES NOT APPEAR TO CONTRIBUTE RUNOFF TO A DOWNSTREAM FLOOD HAZARD ZONE AS STATED ABOVE. THIS PROJECT REPRESENTS PHASED MODIFICATIONS TO AN EXISTING CHURCH SITE WITHIN THE UPTOWN (INFILL) AREA.

III. BACKGROUND DOCUMENTS

RESEARCH WAS CONDUCTED AT THE CITY ENGINEER'S OFFICE REVEALING PRIOR DRAINAGE SUBMITTALS FOR THIS SITE (H-18/010). A BRIEF LISTING OF THOSE SUBMITTALS APPEARS BELOW. NONE OF THESE SITE SPECIFIC SUBMITTALS, HOWEVER, ADDRESS DOWNSTREAM CAPACITY OR ALLOWABLE DISCHARGE.

- A. ADDITION TO ST. JOHN'S METHODIST CHURCH BY ENGINEERING ASSOCIATES (AUGUST F. MOSNAN, P.E.), OCTOBER 27, 1978. RETENTION PONDING PROPOSED - NO APPROVAL LETTER.
B. PROPOSAL TO FILL PONDS AND DIVERT FLOWS TO ARIZONA STREET NE BY WILSON & CO. (ROBERT F. SYKES, P.E.), AUGUST 5, 1982 - NO APPROVAL LETTER.
C. PARKING LOT ADDITION/EXPANSION BY CHAVEZ-GRIEVE CONSULTING ENGINEERS, MAY 03, 2000, APPROVED MAY 17, 2000 - CONTINUED FREE DISCHARGE OF PARKING LOT.

THE FOLLOWING REFERENCES WERE ALSO REVIEWED IN CONJUNCTION WITH THE PREPARATION OF THIS DRAINAGE PLAN:

- A. PLATE H-18N CITY OF ALBUQUERQUE DRAINAGE FACILITIES MAP, IDENTIFIES DRAINAGE PATTERN OF EAST TO WEST AND NORTH TO SOUTH. ARIZONA DRAINS SOUTH TO MANUAL. MANUAL DRAINS WEST TO A CATTLEGUARD INLET THE FULL WIDTH OF MANUAL.
B. PLATE H-18 ALBUQUERQUE MASTER DRAINAGE STUDY, NO FLOODING ASSOCIATED WITH THE SYSTEM IN MANUAL, REFERENCED ABOVE. ALSO SHOWS A PROPOSED PUBLIC STORM DRAIN IN PHOENIX FROM DAKOTA TO SAN PEDRO. VISUAL SITE INSPECTION REVEALS THAT THIS SYSTEM IS IN PLACE.
C. ZUNI ELEMENTARY SCHOOL DRAINAGE PLAN (H-18/054) PREPARED BY THIS OFFICE DATED APRIL 28, 2000 AND FEBRUARY 19, 2001 AND CERTIFIED ON AUGUST 21, 2001. THE ZUNI SUBMITTAL IS BASED UPON AVAILABLE DOWNSTREAM CAPACITY AND JUSTIFIED CONTINUED FREE DISCHARGE THEREBY ESTABLISHING A PRECEDENT FOR FREE DISCHARGE BY PRIOR SUBMITTAL.

IV. EXISTING CONDITIONS

AT PRESENT, THE SITE IS ALREADY DEVELOPED AS A CHURCH. REVIEW OF THE BACKGROUND DOCUMENTS REFERENCED ABOVE, COMBINED WITH VISUAL INSPECTION OF THE SITE, INDICATES THAT THE SITE DISCHARGES TO THE EXISTING CITY RIGHTS-OF-WAY THAT BOUND THE PROPERTY. FROM THIS POINT, IT APPEARS THAT THE STREETS CARRY THE MAJORITY OF THE FLOWS TO MANUAL WHERE THE CATTLEGUARD INLET REFERENCED ABOVE IS SITUATED. MINOR FLOWS FROM THE SITE DISCHARGE TO PHOENIX WHERE A RELATIVELY NEW PUBLIC STORM DRAIN EXISTS.

V. DEVELOPED CONDITIONS

THE DEVELOPED RUNOFF GENERATED BY THE PROPOSED IMPROVEMENTS WILL CONTINUE TO DISCHARGE FROM THE SITE TO THE EXISTING DOWNSTREAM STREETS AS DESCRIBED ABOVE IN THE PRECEDING SECTION. THE PROPOSED SITE WORK WILL NOT SIGNIFICANTLY ALTER THE HYDROLOGY OF THE SITE NOR WILL IT HAVE AN ADVERSE IMPACT ON EXISTING ONSITE DRAINAGE CONDITIONS OR EXISTING DOWNSTREAM CONDITIONS. THE CONTINUED FREE DISCHARGE OF RUNOFF FROM THE SITE APPEARS TO BE APPROPRIATE.

FOR THE PURPOSES OF ANALYSIS, THE SITE HAS BEEN DIVIDED INTO THREE DRAINAGE BASINS. BASIN A IS THE NORTHERNMOST BASIN THAT DRAINS TO PHOENIX AVENUE NE. BASIN A IS THE SITE OF THE PROPOSED FAMILY LIFE CENTER ADDITION. RUNOFF FROM THE NEW ADDITION WILL DISCHARGE TO THE STREET VIA A NEW 24" SIDEWALK CULVERT.

BASIN B COMPRISES THE WESTERLY PORTION OF THE SITE AND IS THE LOCATION FOR THE PROPOSED MUSIC BUILDING ADDITION. EXISTING PAVING AND LANDSCAPING WILL BE REMOVED TO ACCOMMODATE THIS NEW WORK. RUNOFF FROM THE NEW ADDITION AND RELATED SITE WORK WILL DISCHARGE TO ARIZONA STREET NE.

BASIN C COMPRISES THE EASTERLY PORTION OF THE SITE THAT DRAINS SOUTH TO CALIFORNIA STREET NE. NO CHANGES ARE BEING PROPOSED WITHIN BASIN C WITH THE EXCEPTION OF A PRIVATE SIDEWALK CULVERT TO PROMOTE IMPROVED DRAINAGE OF THE LANDSCAPED AREA THAT IS NOW RELATIVELY FLAT. THE PRIVATE SIDEWALK CULVERT WILL DISCHARGE TO THE EXISTING PARKING LOT AND THEN DRAIN SOUTH AS DISCUSSED ABOVE.

VI. CALCULATIONS

CALCULATIONS ANALYZING THE EXISTING AND DEVELOPED CONDITIONS FOR THE 100-YEAR 6-HOUR RAINFALL EVENT HAVE BEEN PREPARED FOR BASINS A AND B WHERE NEW WORK IS PROPOSED. THESE CALCULATIONS HAVE BEEN PREPARED IN ACCORDANCE WITH THE PROCEDURE FOR 40 ACRE AND SMALLER BASINS, AS SET FORTH IN THE REVISION OF SECTION 22.2, HYDROLOGY OF THE DEVELOPMENT PROCESS MANUAL, VOLUME 2, DESIGN CRITERIA, DATED JANUARY, 1993. AS INDICATED BY THESE CALCULATIONS THE PEAK RATE OF DISCHARGE AND VOLUME OF RUNOFF GENERATED WILL EXPERIENCE AN INCREASE AS A RESULT OF THE PROPOSED DEVELOPMENT. CALCULATIONS FOR BASIN C HAVE NOT BEEN PREPARED DUE TO THE FACT THAT NO CHANGES TO THAT BASIN ARE PROPOSED.

VII. CONCLUSION

THE CONTINUED FREE DISCHARGE OF RUNOFF FROM THIS SITE TO THE ADJACENT CITY STREETS IS APPROPRIATE DUE TO THE FOLLOWING FACTORS:

- 1. MODIFICATION TO AN EXISTING SITE WITHIN AN INFILL AREA
2. NEGLIGIBLE INCREASE IN DEVELOPED RUNOFF GENERATED BY THE SITE AS DEMONSTRATED BY THE CALCULATIONS CONTAINED HEREIN
3. APPROPRIATE DOWNSTREAM CAPACITY
4. NO IMPACT ON ADJACENT OR DOWNSTREAM FLOOD ZONES
5. THE EXISTING DRAINAGE PATTERN (STATUS QUO) WILL NOT BE ALTERED AND HENCE MAINTAINED

CALCULATIONS

I. PRECIPITATION ZONE = 3

II. P_6,100 = P_360 = 2.60

III. TOTAL AREA (A_t) = 100850 SF / 2.32 AC

IV. EXISTING LAND TREATMENT

Table with columns: TREATMENT, AREA (SF/AC), %. Rows for BASIN A (36250 SF / 0.83 AC) and BASIN B (64590 SF / 1.48 AC) with treatments B and D.

Table with columns: TREATMENT, AREA (SF/AC), %. Rows for BASIN B (64590 SF / 1.48 AC) with treatments B and D.

V. DEVELOPED LAND TREATMENT

Table with columns: TREATMENT, AREA (SF/AC), %. Rows for BASIN A (36250 SF / 0.83 AC) and BASIN B (64590 SF / 1.48 AC) with treatments B and D.

Table with columns: TREATMENT, AREA (SF/AC), %. Rows for BASIN B (64590 SF / 1.48 AC) with treatments B and D.

VI. EXISTING CONDITION

BASIN A

A. VOLUME

E_w = (E_a A_a + E_b A_b + E_c A_c E_d A_d) / A_t
E_w = [0.92(0.39) + 2.36(0.44)] / 0.83 = 1.68 IN
V_100,6-HR = (E_w / 12) A_t

V_100,6-HR = (1.68 / 12) (0.83) = 0.1164 AC - FT = 5070 CF

B. PEAK DISCHARGE

Q_p = Q_p A_a + Q_p B A_b + Q_p C A_c + Q_p D A_d
Q_p = Q_100 = 2.60(0.39) + 5.02(0.44) = 3.2 CFS

BASIN B

A. VOLUME

E_w = (E_a A_a + E_b A_b + E_c A_c E_d A_d) / A_t
E_w = [0.92(0.40) + 2.36(1.08)] / 1.48 = 1.97 IN
V_100,6-HR = (E_w / 12) A_t

V_100,6-HR = (1.97 / 12) (1.48) = 0.2431 AC - FT = 10590 CF

B. PEAK DISCHARGE

Q_p = Q_p A_a + Q_p B A_b + Q_p C A_c + Q_p D A_d
Q_p = Q_100 = 2.60(0.40) + 5.02(1.08) = 6.5 CFS

VII. DEVELOPED CONDITION

BASIN A

A. VOLUME

E_w = (E_a A_a + E_b A_b + E_c A_c E_d A_d) / A_t
E_w = [0.92(0.33) + 2.36(0.51)] / 0.83 = 1.82 IN
V_100,6-HR = (E_w / 12) A_t

V_100,6-HR = (1.82 / 12) (0.83) = 0.1256 AC - FT = 5470 CF

B. PEAK DISCHARGE

Q_p = Q_p A_a + Q_p B A_b + Q_p C A_c + Q_p D A_d
Q_p = Q_100 = 2.60(0.33) + 5.02(0.51) = 3.4 CFS

BASIN B

A. VOLUME

E_w = (E_a A_a + E_b A_b + E_c A_c E_d A_d) / A_t
E_w = [0.92(0.21) + 2.36(1.28)] / 1.48 = 2.17 IN
V_100,6-HR = (E_w / 12) A_t

V_100,6-HR = (2.17 / 12) (1.48) = 0.2678 AC - FT = 11670 CF

B. PEAK DISCHARGE

Q_p = Q_p A_a + Q_p B A_b + Q_p C A_c + Q_p D A_d
Q_p = Q_100 = 2.60(0.21) + 5.02(1.28) = 7.0 CFS

VIII. COMPARISON

A. BASIN A

1. ΔV_100 = 5470 - 5070 = 400 CF (INCREASE)

2. ΔQ_100 = 3.4 - 3.2 = 0.2 CFS (INCREASE)

B. BASIN B

1. ΔV_100 = 11670 - 10590 = 1080 CF (INCREASE)

2. ΔQ_100 = 7.0 - 6.5 = 0.5 CFS (INCREASE)

FILE NO. PLOT SCALE PLOT DATE XREF FILES (RECENT DAYS) DRAWN BY DATE

File Path: C:\WORK\DRAINAGE\DRN\05-28-2002 File Name: 108120.DWG Plot Time: 1:58 pm

DRAINAGE PLAN AND CALCULATIONS



Handwritten signature and date 05-28-2002

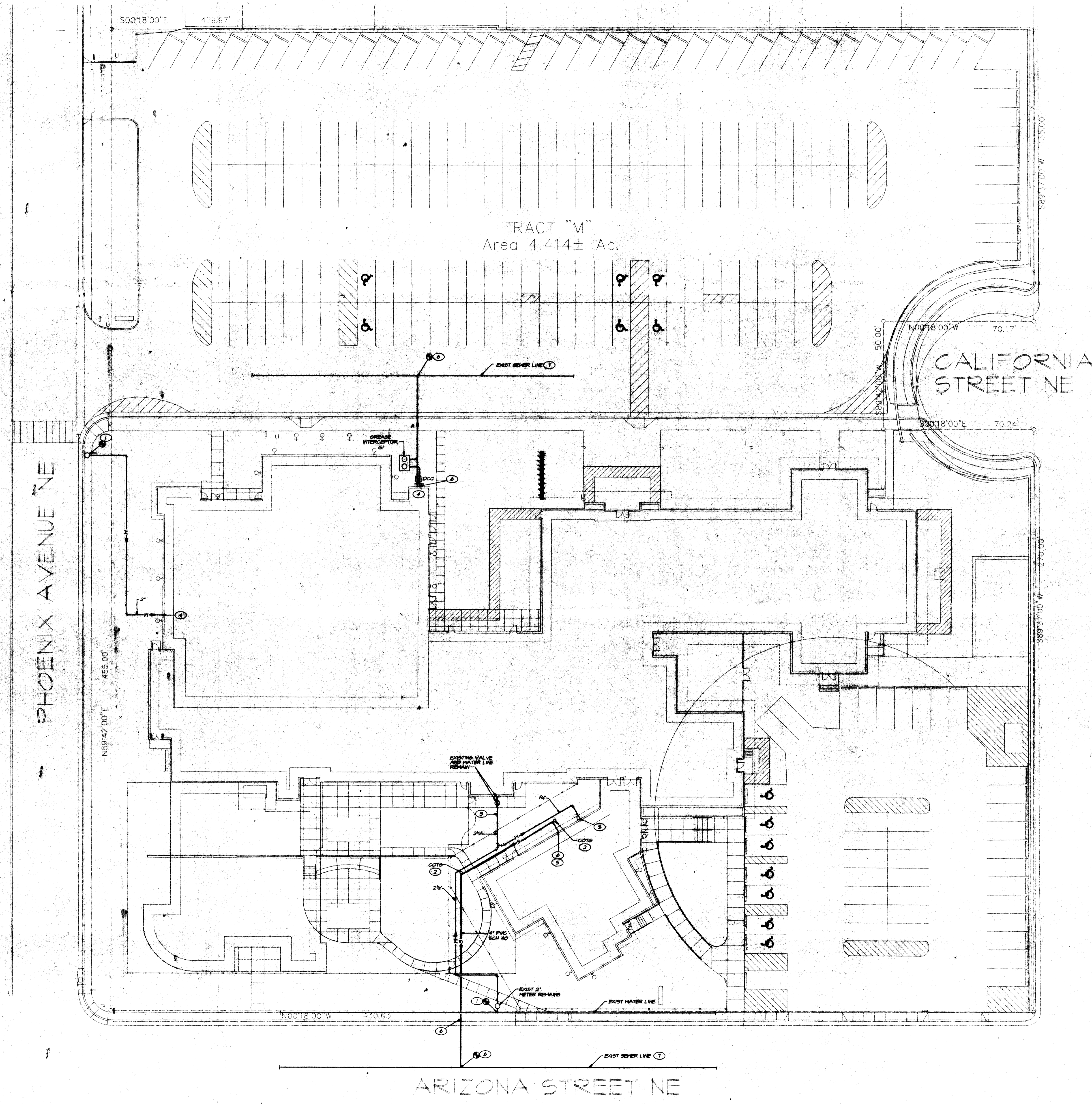


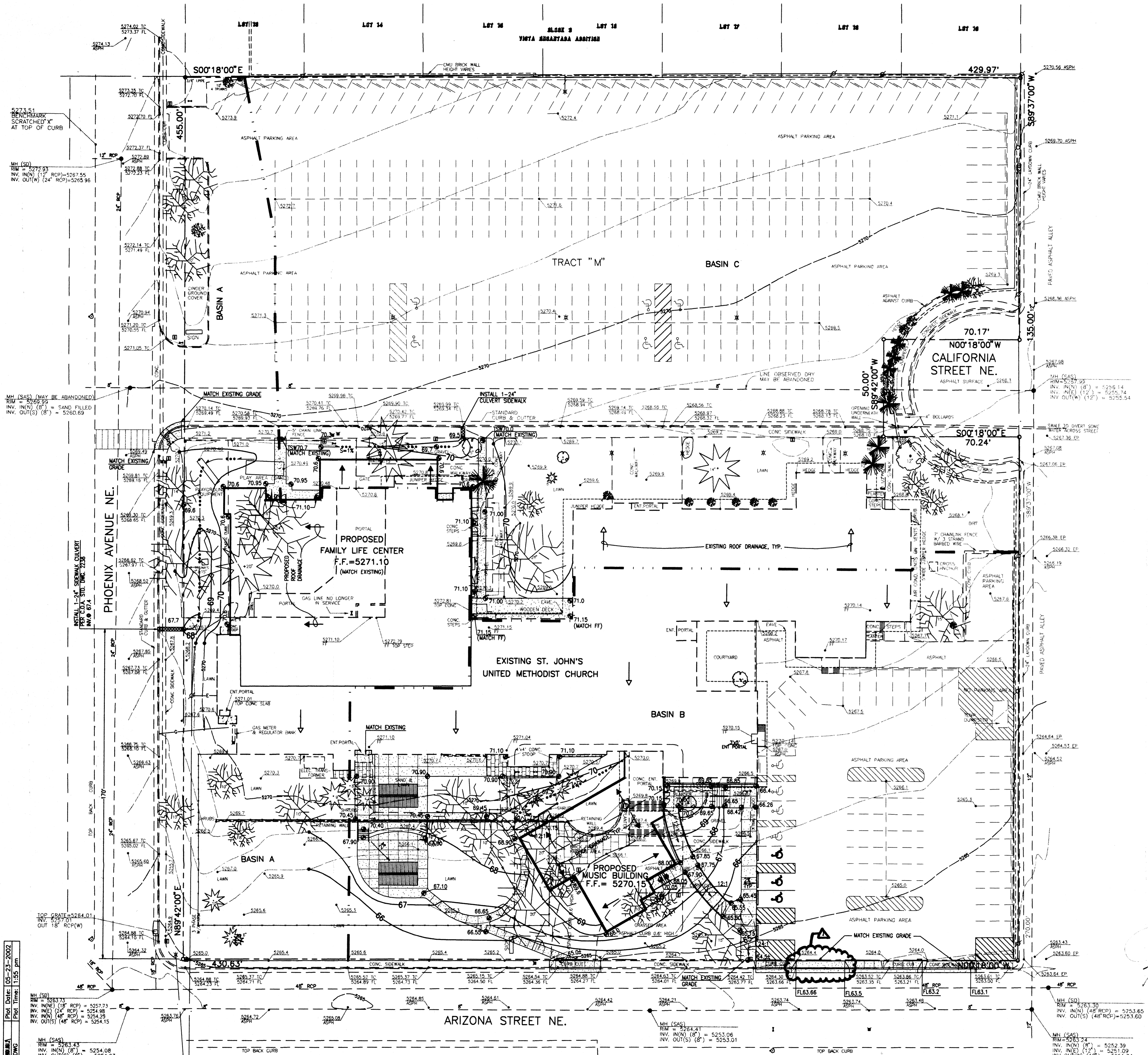
Table with columns: APPROVALS, NAME, DATE. Rows for HYDROLOGY, SIDEWALK INSPECTOR, STORM DRAIN MAINTENANCE.

DRB EPC SUBMITTAL SHEET #4 - GRADING PLAN. Includes project title, sheet title, and a table for revisions.

2001.061.2 Jma logo and contact information for Jeff Mortensen & Associates, Inc.

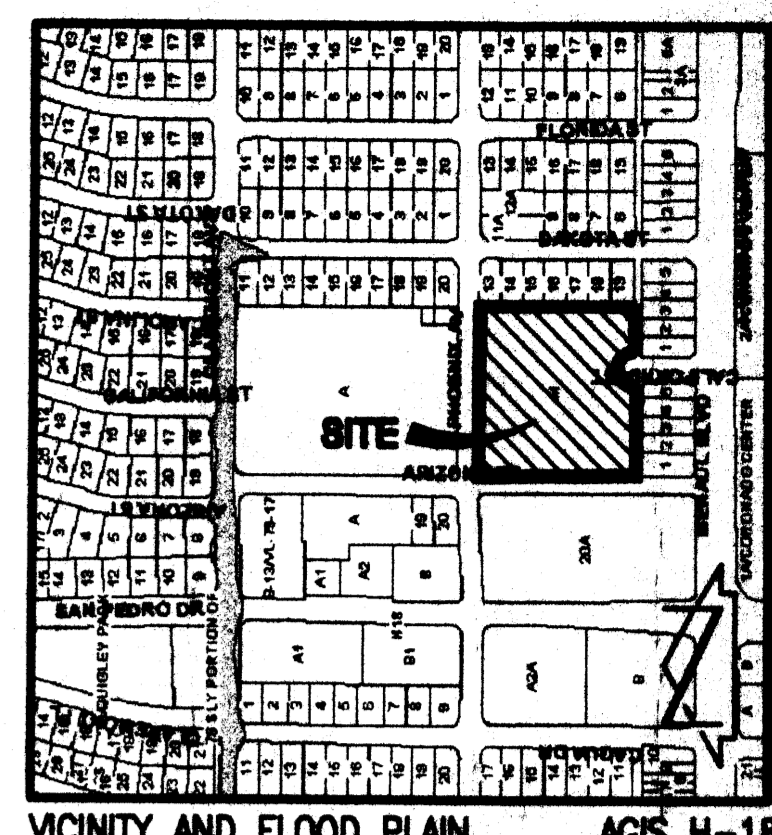
CUSTER • BASARICH, LTD. ARCHITECTS • PLANNERS, AIA. SHEET NO. C.2 DATE: MAY 28, 2002





LEGAL DESCRIPTION
 TRACT "M", ST. JOHN'S METHODIST CHURCH OF ALBUQUERQUE, INC.
 WITHIN VISTA ENCANTADA ADDITION

PROJECT BENCHMARK
 ACS 3 1/4" ALUMINUM CAP SET FLUSH IN THE TOP OF A CURB AND
 STAMPED "17-H18 1988" STATION IS LOCATED IN THE SOUTHEAST
 QUADRANT OF THE INTERSECTION OF SAN PEDRO BOULEVARD, N.E. AND
 MENAUL BOULEVARD N.E.
 ELEVATION = 5255.71 FEET (NOV 1929)



- LEGEND**
- TC TOP OF CURB
 - FL FLOWLINE
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 - EXISTING SPOT ELEVATION
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 - SEWER CLEANOUT
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 - APPROX. LOCATION AND DRIFLINE OF DECIDUOUS TREE
 - APPROX. LOCATION AND DRIFLINE OF PINE TREE
 - SD STORM DRAIN
 - SAS SANITARY SEWER
 - UT UNDERGROUND TELEPHONE
 - (LOCATION BASED ON OLD UTILITY SPOTS)
 - 70 BASIN BOUNDARY
 - PROPOSED CONTOUR
 - PROPOSED ELEVATION

- CONSTRUCTION NOTES:**
- TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL SYSTEM 280-1990 (ALBUQUERQUE AREA), 1-800-321-ALERT(2537) (STATEWIDE), FOR LOCATION OF EXISTING UTILITIES.
 - PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL POTENTIAL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL INTERPRETATIONS IT MAKES WITHOUT FIRST CONTACTING THE ENGINEER AS REQUIRED ABOVE.
 - ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, RULES AND REGULATIONS CONCERNING CONSTRUCTION SAFETY AND HEALTH.
 - ALL CONSTRUCTION WITHIN PUBLIC RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE CITY OF ALBUQUERQUE STANDARDS AND PROCEDURES.
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 - MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.
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 - THE CONTRACTOR SHALL PROMPTLY CLEAN UP ANY MATERIAL EXCAVATED WITHIN THE PUBLIC RIGHT-OF-WAY SO THAT THE EXCAVATED MATERIAL IS NOT SUSCEPTIBLE TO BEING WASHED DOWN THE STREET.
 - THE CONTRACTOR SHALL SECURE TOPSOIL DISTURBANCE PERMIT PRIOR TO BEGINNING CONSTRUCTION.

**DRB
 EPC SUBMITTAL
 SHEET #3 - GRADING PLAN**

PROJECT TITLE
ST. JOHN'S UNITED METHODIST CHURCH ALBUQUERQUE, NM

ST. JOHN'S UNITED METHODIST CHURCH

REVISIONS
 DELETED DRIVE AND PERMITS FOR LOCAL LANDSCAPING CONTRACTOR'S GA LETTER DATED JULY 19, 2002.

JOB NUMBER
9811

SHEET TITLE
GRADING & DRAINAGE PLAN

DATE
MAY 28, 2002

SHEET NO.
C.1

APPROVALS	NAME	DATE
HYDROLOGY		
SIDEWALK INSPECTOR		
STORM DRAIN MAINTENANCE		

2001.061.2

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NOTE:
 THIS IS NOT A BOUNDARY SURVEY. APPARENT PROPERTY CORNERS ARE SHOWN FOR INFORMATION ONLY. BOUNDARY AND TOPOGRAPHIC INFORMATION SHOWN ARE BASED UPON A TOPOGRAPHIC SURVEY BY RED MOUNTAIN ENGINEERS, INC., DATED MAY 07, 2002

GRADING AND DRAINAGE PLAN
 SCALE: 1" = 20'-0"



FILE NO. PLOT SCALE DRAWN BY DMC
 PLOT DATE 05-23-2002
 XREF FILES REPLANT.DWG
 Title Block: 10/15/02 DMC
 Date: 05-23-2002
 PLOT TIME: 11:52 AM

MH (SD)
 INV. IN(N) (18" RCP) = 5257.73
 INV. IN(N) (24" RCP) = 5254.98
 INV. IN(N) (48" RCP) = 5254.29
 INV. OUT(S) (48" RCP) = 5254.15

MH (SAS)
 INV. IN(N) (8") = 5254.08
 INV. OUT(S) (8") = 5254.03

MH (SAS)
 INV. IN(N) (6") = 5253.74
 INV. IN(N) (8") = 5253.39
 INV. IN(E) (12") = 5251.09
 INV. OUT(W) (12") = 5251.04

MH (SAS)
 INV. IN(N) (6") = 5253.30
 INV. IN(N) (48" RCP) = 5253.65
 INV. OUT(S) (48" RCP) = 5253.60

MH (SAS)
 INV. IN(N) (6") = 5253.24
 INV. IN(N) (8") = 5252.99
 INV. IN(E) (12") = 5251.09
 INV. OUT(W) (12") = 5251.04

DRAINAGE PLAN

I. INTRODUCTION AND EXECUTIVE SUMMARY

THIS PROJECT, LOCATED IN THE UPTOWN AREA OF THE NORTHEAST HEIGHTS, REPRESENTS PHASED MODIFICATIONS TO AN EXISTING CHURCH SITE WITHIN AN INFILL AREA. EACH PART, OR PHASE, WILL BE ABLE TO FUNCTION INDEPENDENTLY AND HENCE WILL NOT RELY UPON A DIFFERENT PHASE FOR PROPER DRAINAGE PERFORMANCE. THE DRAINAGE CONCEPT WILL BE THE CONTINUED FREE DISCHARGE OF RUNOFF TO THE EXISTING PAVED CITY STREETS THAT SURROUND THE FULLY DEVELOPED SITE.

THIS SUBMITTAL IS MADE IN SUPPORT OF A BUILDING PERMIT FOR THE PROPOSED BUILDING ADDITIONS AND SO#19 APPROVAL TO RELEASE SITE RUNOFF TO THE STREETS VIA SIDEWALK CULVERTS.

II. PROJECT DESCRIPTION

AS SHOWN BY CITY ZONE ATLAS PAGE H-18, THIS SITE IS LOCATED NORTH OF CORONADO SHOPPING CENTER. THE SITE IS BOUNDED ON THE NORTH BY PHOENIX AVENUE NE, ON THE EAST BY EXISTING RESIDENTIAL PROPERTIES, ON THE SOUTH BY A PUBLIC ALLEY AND ON THE WEST BY ARIZONA STREET NE. THE CURRENT LEGAL DESCRIPTION IS TRACT M OF ST. JOHN'S METHODIST CHURCH OF ALBUQUERQUE, INC. WITHIN VISTA ENCANTADA ADDITION. AS SHOWN BY PANEL 352 OF 825 OF THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAPS PUBLISHED BY FEMA FOR BERNALILLO COUNTY, NEW MEXICO, SEPTEMBER 20, 1996, THIS SITE DOES NOT LIE WITHIN OR ADJACENT TO A DESIGNATED FLOOD HAZARD ZONE. FURTHERMORE, THE SITE DOES NOT APPEAR TO CONTRIBUTE RUNOFF TO A DOWNSTREAM FLOOD HAZARD ZONE. AS STATED ABOVE, THIS PROJECT REPRESENTS PHASED MODIFICATIONS TO AN EXISTING CHURCH SITE WITHIN THE UPTOWN (INFILL) AREA.

III. BACKGROUND DOCUMENTS

RESEARCH WAS CONDUCTED AT THE CITY ENGINEER'S OFFICE REVEALING PRIOR DRAINAGE SUBMITTALS FOR THIS SITE (H-18/010). A BRIEF LISTING OF THOSE SUBMITTALS APPEARS BELOW. NONE OF THESE SITE SPECIFIC SUBMITTALS, HOWEVER, ADDRESS DOWNSTREAM CAPACITY OR ALLOWABLE DISCHARGE.

- A. ADDITION TO ST. JOHN'S METHODIST CHURCH BY ENGINEERING ASSOCIATES (AUGUST F. MOSIMAN, P.E.), OCTOBER 27, 1978, RETENTION PONDING PROPOSED - NO APPROVAL LETTER.
B. PROPOSAL TO FILL PONDS AND DIVERT FLOWS TO ARIZONA STREET NE BY WILSON & CO. (ROBERT F. SYKES, P.E.), AUGUST 5, 1982 - NO APPROVAL LETTER.
C. PARKING LOT ADDITION/EXPANSION BY CHAVEZ-GRIEBS CONSULTING ENGINEERS, MAY 03, 2000, APPROVED MAY 17, 2000 - CONTINUED FREE DISCHARGE OF PARKING LOT.

THE FOLLOWING REFERENCES WERE ALSO REVIEWED IN CONJUNCTION WITH THE PREPARATION OF THIS DRAINAGE PLAN:

- A. PLATE H-18N CITY OF ALBUQUERQUE DRAINAGE FACILITIES MAP, IDENTIFIES DRAINAGE PATTERN OF EAST TO WEST AND NORTH TO SOUTH. ARIZONA DRAINS SOUTH TO MESAUL. MESAUL DRAINS WEST TO A CATTLEGUARD INLET THE FULL WIDTH OF MESAUL.
B. PLATE H-18 ALBUQUERQUE MASTER DRAINAGE STUDY, NO FLOODING ASSOCIATED WITH THE SYSTEM IN MESAUL REFERENCED ABOVE. ALSO SHOWS A PROPOSED PUBLIC STORM DRAIN IN PHOENIX FROM DAKOTA TO SAN PEDRO. VISUAL SITE INSPECTION REVEALS THAT THIS SYSTEM IS IN PLACE.
C. ZUNI ELEMENTARY SCHOOL DRAINAGE PLAN (H-18/054) PREPARED BY THIS OFFICE DATED APRIL 28, 2000 AND FEBRUARY 19, 2001 AND CERTIFIED ON AUGUST 21, 2001. THE ZUNI SUBMITTAL IS BASED UPON AVAILABLE DOWNSTREAM CAPACITY AND JUSTIFIED CONTINUED FREE DISCHARGE THEREBY ESTABLISHING A PRECEDENT FOR FREE DISCHARGE BY PRIOR SUBMITTAL.

IV. EXISTING CONDITIONS

AT PRESENT, THE SITE IS ALREADY DEVELOPED AS A CHURCH. REVIEW OF THE BACKGROUND DOCUMENTS REFERENCED ABOVE, COMBINED WITH VISUAL INSPECTION OF THE SITE, INDICATES THAT THE SITE DISCHARGES TO THE EXISTING CITY RIGHTS-OF-WAY THAT BOUND THE PROPERTY. FROM THIS POINT, IT APPEARS THAT THE STREETS CARRY THE MAJORITY OF THE FLOWS TO MESAUL WHERE THE CATTLEGUARD INLET REFERENCED ABOVE IS SITUATED. MINOR FLOWS FROM THE SITE DISCHARGE TO PHOENIX WHERE A RELATIVELY NEW PUBLIC STORM DRAIN EXISTS.

V. DEVELOPED CONDITIONS

THE DEVELOPED RUNOFF GENERATED BY THE PROPOSED IMPROVEMENTS WILL CONTINUE TO DISCHARGE FROM THE SITE TO THE EXISTING DOWNSTREAM STREETS AS DESCRIBED ABOVE IN THE PRECEDING SECTION. THE PROPOSED SITE WORK WILL NOT SIGNIFICANTLY ALTER THE HYDROLOGY OF THE SITE NOR WILL IT HAVE AN ADVERSE IMPACT ON EXISTING ON-SITE DRAINAGE CONDITIONS OR EXISTING DOWNSTREAM CONDITIONS. THE CONTINUED FREE DISCHARGE OF RUNOFF FROM THE SITE APPEARS TO BE APPROPRIATE.

FOR THE PURPOSES OF ANALYSIS, THE SITE HAS BEEN DIVIDED INTO THREE DRAINAGE BASINS. BASIN A IS THE NORTHERNMOST BASIN THAT DRAINS TO PHOENIX AVENUE NE. BASIN B IS THE SITE OF THE PROPOSED FAMILY LIFE CENTER ADDITION. RUNOFF FROM THE NEW ADDITION WILL DISCHARGE TO THE STREET VIA A NEW 24" SIDEWALK CULVERT.

BASIN B COMPRISES THE WESTERLY PORTION OF THE SITE AND IS THE LOCATION FOR THE PROPOSED MUSIC BUILDING ADDITION. EXISTING PAVING AND LANDSCAPING WILL BE REMOVED TO ACCOMMODATE THIS NEW WORK. RUNOFF FROM THE NEW ADDITION AND RELATED SITE WORK WILL DISCHARGE TO ARIZONA STREET NE.

BASIN C COMPRISES THE EASTERLY PORTION OF THE SITE THAT DRAINS SOUTH TO CALIFORNIA STREET NE. NO CHANGES ARE BEING PROPOSED WITHIN BASIN C WITH THE EXCEPTION OF A PRIVATE SIDEWALK CULVERT TO PROMOTE IMPROVED DRAINAGE OF THE LANDSCAPED AREA THAT IS NOW RELATIVELY FLAT. THE PRIVATE SIDEWALK CULVERT WILL DISCHARGE TO THE EXISTING PARKING LOT AND THEN DRAIN SOUTH AS DISCUSSED ABOVE.

VI. CALCULATIONS

CALCULATIONS ANALYZING THE EXISTING AND DEVELOPED CONDITIONS FOR THE 100-YEAR, 6-HOUR RAINFALL EVENT HAVE BEEN PREPARED FOR BASINS A AND B WHERE NEW WORK IS PROPOSED. THESE CALCULATIONS HAVE BEEN PREPARED IN ACCORDANCE WITH THE PROCEDURE FOR 40 ACRE AND SMALLER BASINS, AS SET FORTH IN THE REVISION OF SECTION 22.2, HYDROLOGY OF THE DEVELOPMENT PROCESS MANUAL, VOLUME 2, DESIGN CRITERIA, DATED JANUARY, 1993. AS INDICATED BY THESE CALCULATIONS THE PEAK RATE OF DISCHARGE AND VOLUME OF RUNOFF GENERATED WILL EXPERIENCE AN INCREASE AS A RESULT OF THE PROPOSED DEVELOPMENT. CALCULATIONS FOR BASIN C HAVE NOT BEEN PREPARED DUE TO THE FACT THAT NO CHANGES TO THAT BASIN ARE PROPOSED.

VII. CONCLUSION

THE CONTINUED FREE DISCHARGE OF RUNOFF FROM THIS SITE TO THE ADJACENT CITY STREETS IS APPROPRIATE DUE TO THE FOLLOWING FACTORS:

- 1. MODIFICATION TO AN EXISTING SITE WITHIN AN INFILL AREA.
2. NEGLIGIBLE INCREASE IN DEVELOPED RUNOFF GENERATED BY THE SITE AS DEMONSTRATED BY THE CALCULATIONS CONTAINED HEREIN.
3. APPARENT DOWNSTREAM CAPACITY.
4. NO IMPACT ON ADJACENT OR DOWNSTREAM FLOOD ZONES.
5. THE EXISTING DRAINAGE PATTERN (STATUS QUO) WILL NOT BE ALTERED AND HENCE MAINTAINED.

CALCULATIONS

I. PRECIPITATION ZONE = 3

II. P_6,100 = P_360 = 2.60

III. TOTAL AREA (A_T) = 100850 SF / 2.32 AC

IV. EXISTING LAND TREATMENT

BASIN A (36250 SF / 0.83 AC)

Table with columns: TREATMENT, AREA (SF/AC), %

BASIN B (64590 SF / 1.48 AC)

Table with columns: TREATMENT, AREA (SF/AC), %

V. DEVELOPED LAND TREATMENT

BASIN A (36250 SF / 0.83 AC)

Table with columns: TREATMENT, AREA (SF/AC), %

BASIN B (64590 SF / 1.48 AC)

Table with columns: TREATMENT, AREA (SF/AC), %

VI. EXISTING CONDITION

BASIN A

A. VOLUME

E_w = (E_a A_a + E_b A_b + E_c A_c E_d A_d) / A_T
E_w = [0.92(0.39) + 2.36(0.44)] / 0.83 = 1.68 IN
V_100,6-HR = (E_w / 12) A_T
V_100,6-HR = (1.68 / 12) 0.83 = 0.1164 AC - FT = 5070 CF

B. PEAK DISCHARGE

Q_p = Q_p A_a + Q_p B A_b + Q_p C A_c + Q_p D A_d
Q_p = Q_100 = 2.60(0.39) + 5.02(0.44) = 3.2 CFS

BASIN B

A. VOLUME

E_w = (E_a A_a + E_b A_b + E_c A_c E_d A_d) / A_T
E_w = [0.92(0.40) + 2.38(1.08)] / 1.48 = 1.97 IN
V_100,6-HR = (E_w / 12) A_T
V_100,6-HR = (1.97 / 12) 1.48 = 0.2431 AC - FT = 10590 CF

B. PEAK DISCHARGE

Q_p = Q_p A_a + Q_p B A_b + Q_p C A_c + Q_p D A_d
Q_p = Q_100 = 2.60(0.40) + 5.02(1.08) = 6.5 CFS

VII. DEVELOPED CONDITION

BASIN A

A. VOLUME

E_w = (E_a A_a + E_b A_b + E_c A_c E_d A_d) / A_T
E_w = [0.92(0.33) + 2.36(0.51)] / 0.83 = 1.82 IN
V_100,6-HR = (E_w / 12) A_T
V_100,6-HR = (1.82 / 12) 0.83 = 0.1258 AC - FT = 5470 CF

B. PEAK DISCHARGE

Q_p = Q_p A_a + Q_p B A_b + Q_p C A_c + Q_p D A_d
Q_p = Q_100 = 2.60(0.33) + 5.02(0.51) = 3.4 CFS

BASIN B

A. VOLUME

E_w = (E_a A_a + E_b A_b + E_c A_c E_d A_d) / A_T
E_w = [0.92(0.21) + 2.36(1.28)] / 1.48 = 2.17 IN
V_100,6-HR = (E_w / 12) A_T
V_100,6-HR = (2.17 / 12) 1.48 = 0.2678 AC - FT = 11670 CF

B. PEAK DISCHARGE

Q_p = Q_p A_a + Q_p B A_b + Q_p C A_c + Q_p D A_d
Q_p = Q_100 = 2.60(0.21) + 5.02(1.28) = 7.0 CFS

VIII. COMPARISON

A. BASIN A

- 1. ΔV_100 = 5470 - 5070 = 400 CF (INCREASE)
2. ΔQ_100 = 3.4 - 3.2 = 0.2 CFS (INCREASE)

B. BASIN B

- 1. ΔV_100 = 11670 - 10590 = 1080 CF (INCREASE)
2. ΔQ_100 = 7.0 - 6.5 = 0.5 CFS (INCREASE)

DRAINAGE PLAN AND CALCULATIONS



Handwritten signature and date 05-28-2002



Table with columns: APPROVALS, NAME, DATE. Rows for HYDROLOGY, SIDEWALK INSPECTOR, STORM DRAIN MAINTENANCE.

Logo for Jma (Jeff Mortensen & Associates, Inc.) and contact information: 6010-B MIDWAY PARK BLVD. NE, ALBUQUERQUE, NEW MEXICO 87109

DRB EPC SUBMITTAL SHEET #4 - GRADING PLAN. Includes project title, sheet title, date (MAY 28, 2002), sheet number (C.2), and job number (9811).