Hydrology File No. D-19/D014

DRAINAGE COMMENTS:

THE FOLLOWING ITEMS CONCERNING THE SUBJECT SITE ARE CONTAINED ON THE PROPOSED GRADING AND DRAINAGE PLAN SHOWN HEREON:

1.) SITE GRADING AND DRAINAGE PLAN. (EXISTING AND PROPOSED)
2.) VICINITY MAP
3.) LEGAL DESCRIPTION
4.) LIMITED SOIL CHARACTER OF THE EXISTING AND PROPOSED IMPROVEMENTS
5.) HYDRAULIC DRAINAGE CALCULATIONS

AS SHOWN ON THE VICINITY MAP HEREON, THE SUBJECT SITE IS LOCATED ON THE WEST SIDE OF WYOMING BLVD. N.E., APPROXIMATELY 0.70 MILE SOUTH OF PASEO DEL NORTE. THE SITE IS BOUNDED ON THE NORTH BY SANTA BARBARA SUBDIVISION; THE SITE IS PARTIALLY DEVELOPED WITH CHURCH FACILITIES FOR THE CHURCH OF THE RISEN SAVIOR; THE PROPOSED PLAN IS FOR THE PURPOSE OF ADDRESSING THE FLOOD CONDITIONS ON SITE, FOR THE ADDITION OF AN NEW BUILDING FOR CLASSES AND STUDENT ACTIVITIES, AND ADDITIONAL AREAS FOR PARKING. THIS SUBJECT SITE IS LOCATED IN "FLOOD ZONE "C".

OFF-SITE CONDITIONS:

THE PROPOSED NEW DEVELOPED PORTION OF THE SITE WILL DRAIN TO DESIGNATED POND "A", WHICH WILL BE RE-DESIGNED TO ACCOMMODATE THE DISPLACED VOLUME CREATED BY PLACING PROPOSED ASPHALT PARKING AREA OVER THE EXISTING DESIGNATED POND "A".

THERE ARE NO OFF-SITE FLOWS ENTERING THE SUBJECT SITE FROM THE UNDEVELOPED SOUTH, EAST AND WEST PORTIONS OF THE SANTA BARBARA SUBDIVISION, PHASE 1, UNIT SANTA FE. THERE ARE ALSO NO OFF-SITE FLOWS ENTERING THE SUBJECT PROPERTY FROM PROPERTY TO THE WEST WHICH IS ALSO THE SAME UNDEVELOPED SUBDIVISION; ALSO, THERE ARE NO OFF-SITE FLOWS ENTERING THE SUBJECT PROPERTY FROM WYOMING BLVD. N.E. TO THE EAST OF OUR SITE, AND SCOTTS PLACE N.E. TO THE SOUTH OF OUR SUBJECT SITE.

ALL DEVELOPED FLOWS WILL BE RE-DIRECTED TO RE-DESIGNED POND "A" WHICH WILL EVENTUALLY BE ELIMINATED UPON THE DEVELOPMENT OF THE ADJOINING SUBDIVISION TO THE WEST (SEE REPRESENTATIONS); SAID POND VOLUMES WILL THEN BE FREE DISCHARGE AND SAID POND WILL THEN BE UTILIZED AS A PROPOSED PARKING AREA.

ON-SITE CONDITIONS:

AS APOREMENTIONED, THE EXISTING SITE DEVELOPMENT HAS A CHURCH BUILDING AND PARKING AREAS THAT DRAIN TO TWO (2) EXISTING PONDS THAT ARE DESIGNATED PONDS "A" AND "B" BEHIND FOR OUR PURPOSES.

ALL EXISTING AND PROPOSED DEVELOPMENT FLOWS ARE TO BE DIRECTED TOWARDS THE RE-DESIGNED POND "A".

DRAINAGE CALCULATIONS:

GROUND COVER INFORMATION: FROM SCS BERNALILLO COUNTY SOIL SURVEY, MAPS 11 & 12; REC. ENSINO-TIERRAS COMPLEX, SLOPES 0 TO 9 %

HYDROLOGIC SOIL GROUP: "B"

TIME OF CONCENTRATION/TIME TO PEAK: $T_c = 0.0078\ LC^{0.77}/S^{0.385}$ (Kirpich Equation
$T_p = T_c + Ten$ (10) MINUTES

SITE AREA: 217,800.0 SQ. FT. = 5.00 ACRES

POINT RAINFALL: FOR 100% RETENTION USE THE 24 HOUR - 100 YEAR DESIGN STORM
P_{24} FROM NOAA ATLAS 2 = 3.0 INCHES

RATIONAL METHOD: $Q = CIA$
WHERE "C" FROM NAODAL EMERGENCY FOLE
"I" $= P_{24}\ (6.84)\ T_p^{-0.51} = (3.0)\ (6.84)\ (10)^{-0.51} = 6.34$ IN/HR
$P_{24} = 3.0$ $T_p = 10$ MINUTES A = AREA, ACRES = 5.0

PEAK DISCHARGE CALCULATIONS: $Q_{100} = CIA$

TYPE OF SURFACE (EXISTING DEVELOPED):

HARD SURFACE (ASPHALT/CONC.)	= 2.46 AC. = 55% X (C=0.95)	= 2.48
BUILDING ROOF AREA	= 0.45 AC. = 10% X (C=0.95)	= 0.28
LANDSCAPED AREA	= 0.22 AC. = 05% X (C=0.25)	= 0.01
UNDEVELOPED AREA	= 1.79 AC. = 40% X (C=0.40)	= 1.14
		$\Sigma C = 3.71$

$Q_{100} = CIA = 0.71 \times 6.34 \times 5.00 = 22.5$ cfs

TYPE OF SURFACE (PROPOSED DEVELOPED):

HARD SURFACE (ASPHALT/CONC.)	= 2.46 AC. = 49% X (C=0.95)	= 2.46
BUILDING ROOF AREA	= 0.67 AC. = 13% X (C=0.95)	= 0.12
LANDSCAPED AREA	= 0.41 AC. = 08% X (C=0.25)	= 0.02
UNDEVELOPED AREA	= 0.46 AC. = 09% X (C=0.40)	= 0.04
		$\Sigma C = 2.64$

$Q_{100} = CIA = 0.64 \times 6.34 \times 5.00 = 26.4$ cfs

POND VOLUME CALCULATIONS (80% METHOD):
V = LWX + V = 3630 (80%) A
WHERE: 80% = DIRECT RUNOFF IN INCHES A = AREA, ACRES

EXISTING CONDITIONS:

HARD SURFACE (ASPHALT/ CONC.)	= 110,150.0 SQ. FT. X 0.98 = 108,339.0
BUILDING ROOF AREA	= 29,928.0 SQ. FT. X 0.98 = 29,424.0
LANDSCAPED/ UNDEVELOPED AREA	= 81,722.0 SQ. FT. X 0.63 = 51,345.0
	189,088.0

COMPOSITE "C_p" = 83 (SEE PLATE 22.1 C-1)
DRO = 1.45 IN. (SEE PLATE 22.2 C-4)
$V_{100} = 3630 \times 1.45 \times 5.0 = 26,317.5$ CU. FT.

PROPOSED CONDITIONS:

HARD SURFACE (ASPHALT/CONC.)	= 150,475.0 X 0.98 = 147,457.0
BUILDING ROOF AREA	= 29,128.0 X 0.98 = 28,547.4
LANDS CAPED/UNDEVELOPED AREA	= 38,000.0 X 0.63 = 23,180.0
	199,184.4

COMPOSITE "C_p" = 92 (SEE PLATE 22.1 C-1)
DRO = 2.2 IN. (SEE PLATE 22.2 C-4)
$V_{100} = 3630 \times 2.2 \times 5.0 = 39,930.0$ CU. FT.

EROSION CONTROL MEASURES:

THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR MANAGEMENT FOR STORM WATER DURING CONSTRUCTION; HE SHALL INSURE THAT THE FOLLOWING MEASURES ARE TAKEN:

1.) ADJACENT PROPERTY SHALL BE PROTECTED AT ALL TIMES BY CONSTRUCTION OF BERMS, DIKES, SWALES, PONDS, AND OTHER TEMPORARY MEASURES AS REQUIRED TO PREVENT STORM RUNOFF FROM LEAVING THE SITE AND ENTERING ADJACENT PROPERTIES.

2.) ADJACENT PUBLIC RIGHT-OF-WAYS SHALL BE PROTECTED AT ALL TIMES FROM EROSION AND SEDIMENT DEPOSITION. ANY SEDIMENT DEPOSITED MEANING WATER SHALL BE REMOVED FROM THE PUBLIC STREETS.

3.) THE CONTRACTOR SHALL IMMEDIATELY AND THOROUGHLY REMOVE ANY AND ALL SEDIMENT WITHIN PUBLIC STREETS THAT HAS BEEN DRIGED FROM THE SITE AND DEPOSITED THERE.

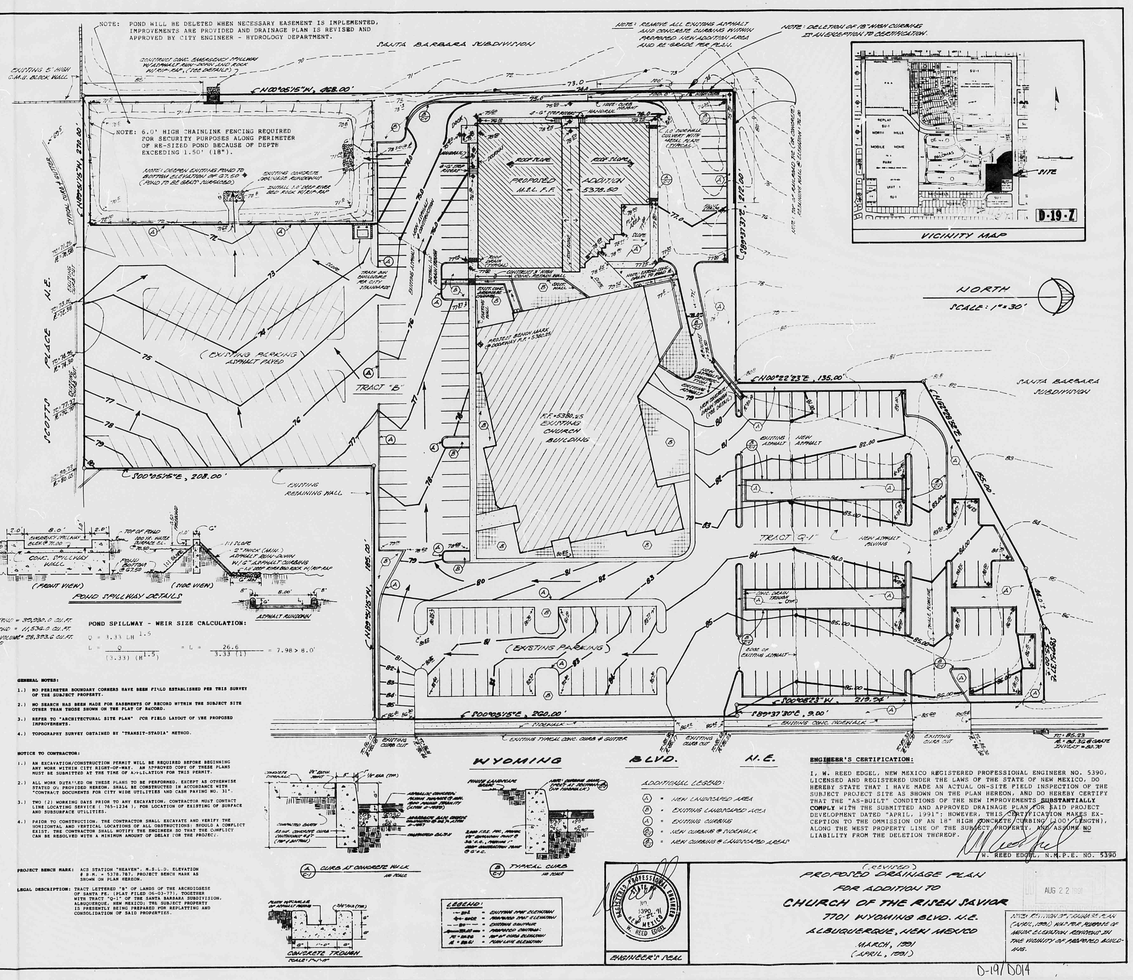
CONSTRUCTION NOTES:

1.) TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT "ALBUQUERQUE ONE-CALL" SERVICE AT 765-1234 FOR LOCATION OF EXISTING UTILITIES.

2.) 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 DO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM OF DELAY.

3.) ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE, AND MUNICIPAL RULES AND REGULATIONS CONCERNING CONSTRUCTION SAFETY AND HEALTH.

4.) ALL CONSTRUCTION WITHIN CITY RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE CITY OF ALBUQUERQUE STANDARDS AND PROCEDURES.



REF 21 DATE 2/24/92 BY LSP

CITY OF ALBUQUERQUE

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PLANS/PLATS ON FILE

FILE DESC: D-19/D014

PLANS/PLATS 1

D-19/D014

F 30 D 24 C 20 B 16 A 12

CITY OF ALBUQUERQUE

C D F

HYDROLOGY

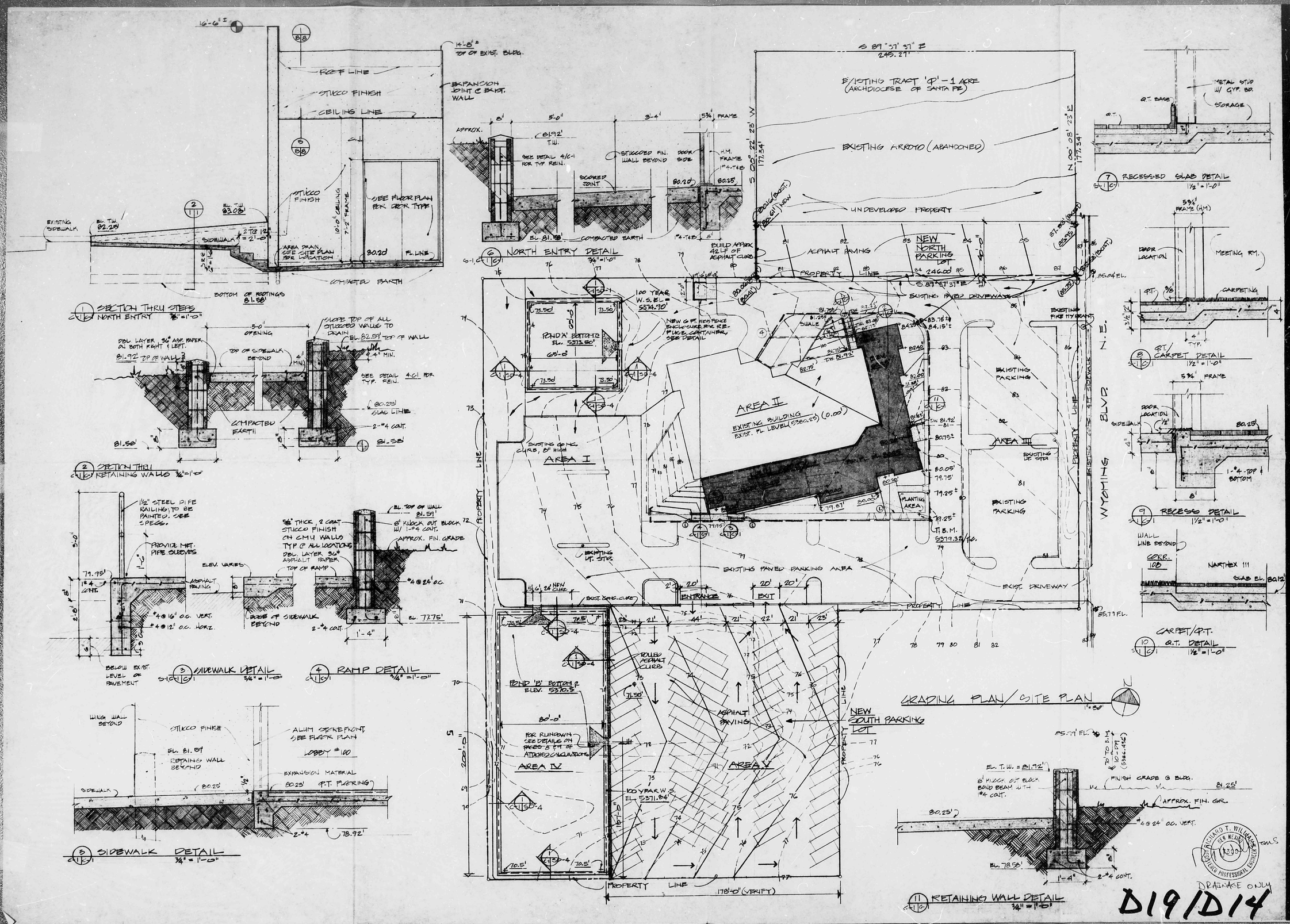
D19/D14

ONE PLAN

I PLAN FOR

CHURCH OF THE
RISEN SAVIOR

D19- D14



REVISED AUG. 20, 1988

JOB NUMBER 1-8-88
DATE MARCH 11, 1988
DRAWN
CHECKED

PROJECT ADDITION TO: CHURCH OF THE RISEN SAVIOR 7311 WYOMING BLVD. N.E.

OWNER ARCHDIOCESE OF SANTA FE

TITLE SITE PLAN (NORTH & SOUTH PARKING LOTS) GRADING PLAN & BLDG. SITE DETAILS

MIGUEL TRUJILLO AND ASSOCIATES
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A. MIGUEL TRUJILLO
No. 1473
REGISTERED ARCHITECT

SHEET C-1